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L2            24 SEA FILE=REGISTRY ABB=ON  PLU=ON  (143746-71-8/BI OR
                 143746-72-9/BI OR 160485-42-7/BI OR 161747-14-4/BI OR
                 25445-42-5/BI OR 317809-68-0/BI OR 373596-08-8/BI OR
                 373596-09-9/BI OR 398128-81-9/BI OR 6006-83-3/BI OR
                 607387-98-4/BI OR 775324-33-9/BI OR 775324-34-0/BI OR
                 854519-90-7/BI OR 854519-91-8/BI OR 854519-92-9/BI OR
                 854519-93-0/BI OR 854519-94-1/BI OR 854519-95-2/BI OR
                 854519-96-3/BI OR 854519-97-4/BI OR 854519-98-5/BI OR
                 854519-99-6/BI OR 854520-00-6/BI)
L6          1270 SEA FILE=REGISTRY ABB=ON  PLU=ON  8481.2/RID
L7            14 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6 AND L2
L13         3411 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6
L15         7451 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "SEMICONDUCTOR FILMS"+PFT,
                 OLD,NEW,NT/CT
L16        52234 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "FIELD EFFECT TRANSISTORS"
                 +PFT,OLD,NEW,NT/CT
L17          443 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13 AND (L15 OR L16)
L18          324 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 AND DEV/RL
L21          320 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18 AND ELECTRIC?/SC,SX
L22           36 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L21 AND L15
L23          198 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18 AND SEMICONDUCT?
L24          197 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L23 AND ELECTRIC?/SC,SX
L25          148 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND ORGANIC?(3A)(SEMIC
                 ONDUCT? OR CONDUCT?)
L26          123 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 AND (LAYER? OR FILM?
                 OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?
                 OR OVERLAID? OR MULTILAYER?)
L27           11 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L26 AND SOLVENT?
L28            4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L26 AND BINDER?
L29            4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L26 AND (COMPOSITION? OR
                 FORMULATION? OR MIXTUR?)
L30           13 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L27 OR L28 OR L29)
L31           42 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 OR L30
L32           18 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L31 AND (1840-2003)/PRY,AY
                 ,PY
L33          299 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18 AND ELECTRIC?/SC
L34          119 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND (1840-2003)/PRY;AY
                 ,PY
L35           92 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L34 AND (LAYER? OR FILM?
                 OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?
                 OR OVERLAID? OR MULTILAYER?)
L36           15 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L35 AND L15
L37           18 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L32 OR L36
L38            8 SEA FILE=REGISTRY ABB=ON  PLU=ON  L7 AND 1-5/SI
L39           39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L38
L40              QUE  ABB=ON  PLU=ON  LUM!N? OR ELECTROLUM!N OR ORGANOLUM!
                 N? OR (ELECTRO OR ORGANO OR ORG#)(2A)LUM!N? OR LIGHT?(2A)
                 (EMIT? OR EMISSION?) OR (EL OR E(W)L OR L(W)E(W)D OR OLED
                 )/IB,AB OR LED/IT
L41            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L39 AND L40
L42       265367 SEA FILE=HCAPLUS ABB=ON  PLU=ON  LUMINESCENCE+PFT,NT,OLD,NE
                 W/CT
L43            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L39 AND L42
L44        57805 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "ELECTROLUMINESCENT
                 DEVICES"+PFT,OLD,NEW,NT/CT
L45            3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L39 AND L44
L46            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L39 AND L15
L47            7 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L39 AND L16
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L48          27 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L39 AND ELECTRIC?/SC,SX
L49          29 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L41 OR L43 OR L45 OR L46
                OR L47 OR L48
L51          16 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18 AND L40
L52          42 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17 AND (L40 OR L42 OR
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L53          42 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L51 OR L52
L54          10 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L53 AND (1840-2003)/PRY,AY
                ,PY
L55          56 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L37 OR L49 OR L54
L56        2897 SEA FILE=HCAPLUS ABB=ON  PLU=ON  BROWN, B?/AU
L57          31 SEA FILE=HCAPLUS ABB=ON  PLU=ON  VERES, J?/AU
L58          23 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ANEMIAN, R?/AU
L59       10561 SEA FILE=HCAPLUS ABB=ON  PLU=ON  WILLIAMS, R?/AU
L60          36 SEA FILE=HCAPLUS ABB=ON  PLU=ON  OGIER, S?/AU
L61          24 SEA FILE=HCAPLUS ABB=ON  PLU=ON  LEEMING, S?/AU
L62           4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L56 OR L57 OR L58 OR L59
                OR L60 OR L61) AND L13
L63          54 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L55 NOT L62


=> sel hit rn 1-
E1 THROUGH E12 ASSIGNED

=> d l63 1-54 ibib ed abs hitstr hitind

L63  ANSWER 1 OF 54  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:        2007:379490  HCAPLUS  Full-text
TITLE:                   Liquid phase fabrication of active electronic
                         devices including organic semiconductors
INVENTOR(S):             Dotz, Florian; Katz, Howard E.; Granstrom, Jimmy;
                         Reichmanis, Elsa; Vaidyanathan, Subramanian;
                         Hennig, Ingolf; Richter, Frauke
PATENT ASSIGNEE(S):      Germany
SOURCE:                  U.S. Pat. Appl. Publ., 43pp.
                         CODEN: USXXCO
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     US 2007077681         A1    20070405    US 2005-240222           20050930
     WO 2007039575         A1    20070412    WO 2006-EP66915          20060929
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
             CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
             GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG,
             KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA,
             MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG,
             PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
             IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
             TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
             ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.:                       US 2005-240222      A  20050930

ED   Entered STN:  05 Apr 2007
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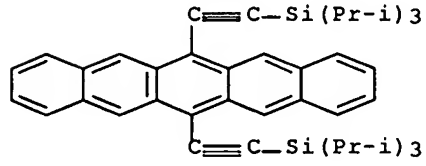
AB A process comprises: providing a support body; forming an organic semiconductor composition body including an organic semiconductor composition on the support body, no more than 10% of the organic semiconductor composition being pentacene; providing a first organic dielec. composition mobilized in a first liquid medium, the organic semiconductor composition being insol. in the first liquid medium; and forming a first organic dielec. composition body from the first organic dielec. composition on the organic semiconductor composition body. An organic semiconductor composition body is formed on an organic dielec. composition body. Apparatus have an organic dielec. composition body on an organic semiconductor composition body.

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(semiconductor; liquid phase fabrication of active electronic devices including organic semiconductors)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



INCL 438099000

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): **76**

IT **Field effect transistors**
(liquid phase fabrication of active electronic devices including organic semiconductors)

IT 5690-24-4D, Naphthalene-1,4,5,8-tetracarboxylic diimide, N,N-dialkyl- 110134-47-9, Poly(3-hexylthiophene), regioregular 155166-90-8 185413-64-3, 5,5'-Bis(4-hydroxy phenyl)-2,2'-bithiophene 289625-34-9 **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene 386748-29-4 583884-12-2, 5,5'-Bis(4-hexyl phenyl)-2,2'-bithiophene 682763-35-5 918441-39-1 932396-68-4 932396-69-5 932396-70-8 932396-71-9 932396-72-0 932396-73-1 932396-74-2 932396-77-5 932745-61-4 932745-62-5 932745-63-6 932745-64-7 932745-65-8 932745-66-9 932745-67-0 932745-68-1 932745-69-2 932745-70-5
(semiconductor; liquid phase fabrication of active electronic devices including organic semiconductors)

L63 ANSWER 2 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:143366 HCAPLUS Full-text
DOCUMENT NUMBER: 146:241822
TITLE: Photoelectric conversion element
INVENTOR(S): Musha, Kiyoshi; Takahashi, Tamotsu
PATENT ASSIGNEE(S): Adeka Corporation, Japan; National University Corporation Hokkaido University
SOURCE: PCT Int. Appl., 51pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007015503	A1	20070208	WO 2006-JP315272	20060802

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2005-224134 A 20050802

JP 2006-118519 A 20060421

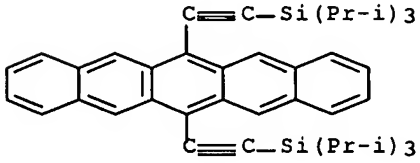
ED Entered STN: 08 Feb 2007

AB A photoelec. conversion element has a photoelec. conversion layer between opposing anode electrode and cathode electrode. The photoelec. conversion layer has a structure in which (1) a p-type semiconductor layer and (2) a layer mixing a p-type semiconductor with an n-type semiconductor, and, as required, (3) an n-type semiconductor layer or a metal oxide layer are sequentially layered. The photoelec. conversion layer is characterized in that at least one photoelec. conversion efficiency improving means out of the following (a)-(c) was used: (a) an organic semiconductor thin film with a charge mobility of at least 0.005 cm2/V·sec being used as at least one semiconductor layer in (1)-(3), (b) the energy gap between the work function of the anode electrode and the HOMO (highest occupied mol. orbit) of the p-type semiconductor layer in (1) and/or the energy gap between the work function of the cathode electrode and the LUMO (lowest unoccupied mol. orbit) of the n-type semiconductor layer in (3) being up to 0.5 eV, and (c) a buffer layer formed of an organic compound being provided between the anode electrode and/or the cathode electrode and the photoelec. conversion layer to chemical bond the organic compound of the buffer layer with the anode electrode and/or the cathode electrode.

IT **373596-08-8**
(photoelec. conversion components containing laminated p- and n-type semiconductor layers)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-5 (**Electric** Phenomena)

IT 135-48-8, Pentacene 104934-50-1 160848-22-6 **373596-08-8**

868394-82-5 915100-15-1
(photoelec. conversion components containing laminated p- and n-type semiconductor layers)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

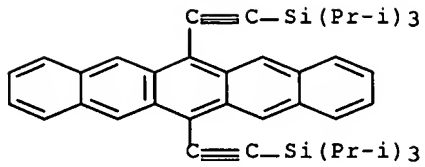
L63 ANSWER 3 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1354317 HCAPLUS Full-text
DOCUMENT NUMBER: 146:112556
TITLE: Organic semiconductor film forming method, organic semiconductor film and organic thin film transistor
INVENTOR(S): Sugisaki, Reiko; Takemura, Chiyoko; Hirai, Katsura
PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
SOURCE: PCT Int. Appl., 37pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006137512	A1	20061228	WO 2006-JP312576	20060623

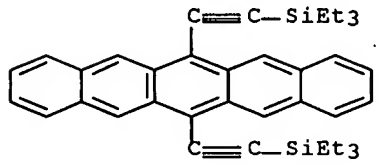
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2005-185267 A 20050624

ED Entered STN: 28 Dec 2006
AB A method for forming an organic semiconductor film having a high carrier mobility is provided by having an average volatilization rate of a solvent within a prescribed range during a step of drying, at the time of applying a coating solution, which includes an organic semiconductor material and a nonhalogen solvent, on a substrate. In such forming method, characteristic fluctuation in repeated use of the organic semiconductor film is suppressed, and an organic thin film transistor having an excellent film forming characteristic even on an insulator with reduced gate voltage threshold can be obtained.
IT **373596-08-8 398128-81-9**
(organic semiconductor film forming method, organic semiconductor film and organic thin film transistor)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 398128-81-9 HCAPLUS
CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 74
IT **Electroluminescent devices**
Thin film transistors
(organic; organic semiconductor film forming method, organic semiconductor film and organic thin film transistor)
IT **373596-08-8 398128-81-9** 565205-82-5 871310-68-8
(organic semiconductor film forming method, organic semiconductor film and organic thin film transistor)
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

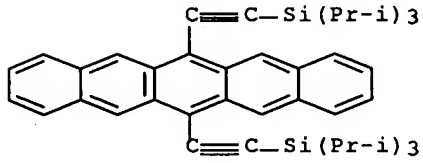
L63 ANSWER 4 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1344497 HCAPLUS Full-text
DOCUMENT NUMBER: 146:240356
TITLE: Thermal and mechanical cracking in bis(triisopropylsilylethnyl) pentacene thin films
AUTHOR(S): Chen, Jihua; Tee, Chee Keong; Yang, Junyan; Shaw, Charles; Shtein, Max; Anthony, John; Martin, David C.
CORPORATE SOURCE: Macromolecular Science and Engineering Center, University of Michigan, Ann Arbor, MI, 48109, USA
SOURCE: Journal of Polymer Science, Part B: Polymer Physics (2006), 44(24), 3631-3641
CODEN: JPBPEM; ISSN: 0887-6266
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 25 Dec 2006
AB Bis(triisopropylsilylethnyl) pentacene (TIPS pentacene) was synthesized to increase its solubility in common liquid solvents and, at the same time, enhance the π-π stacking between neighboring acenes in the crystallized state in comparison with unmodified pentacene. Hot-stage microscopy expts. revealed that during heating voids develop along the long axis of the TIPS pentacene

films {along the [210] direction/parallel to the (.hivin.1.hivin.2.hivin.0) planes} and crystals overlap along the short axis {along the [.hivin.1.hivin.2.hivin.0] direction/parallel to the (210) planes}. From mol. mechanics simulations, the predominant twin boundaries of (.hivin.1.hivin.2.hivin.0) and commonly observed cracking planes of (120), (.hivin.1.hivin.2.hivin.0), and (210) had relatively low surface energies in comparison with planes with similar Miller indexes. Organic thin-film transistors with TIPS pentacene as the active layer were fabricated, and the mobility values decreased from 0.4-1.0 cm2/V s before cracking to .apprx.0.2 cm2/V s after cracking. To maintain the high charge carrier mobility of TIPS pentacene devices, these cracks should be avoided.

IT **373596-08-8**
(thermal and mech. cracking in bis(triisopropylsilylethnyl) pentacene thin films)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)

IT **373596-08-8**
(thermal and mech. cracking in bis(triisopropylsilylethnyl) pentacene thin films)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 5 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:1047490 HCAPLUS Full-text

DOCUMENT NUMBER: 146:217367

TITLE: Field-effect transistors made by functionalized pentacene with logic gate applications

AUTHOR(S): Park, J. G.; Vasic, R.; Brooks, J. S.; Anthony, J. E.

CORPORATE SOURCE: National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, 32310, USA

SOURCE: Journal of Low Temperature Physics (2006), 142(3/4), 387-392
CODEN: JLTPAC; ISSN: 0022-2291

PUBLISHER: Springer

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 09 Oct 2006

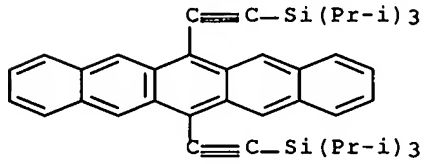
AB Functionalized pentacene, 6,13-bis(triisopropylsilylethynyl)pentacene (TIPS-pentacene), field-effect transistors (FET) were made by thermal evaporation or solution deposition methods and the temperature dependent mobility was measured. The field-effect mobility (μFET) activation energy is gate voltage dependent. At low gate voltage, activated conduction is dominant with Ea .apprx. 0.27 eV, slightly smaller than the bulk value, and the activation

energy decreases with increasing gate voltage. This is ascribed to traps in the film. A non-monotonic temperature dependence is observed at high gate voltage (VG < -30 V) with Ea .apprx.60-170 meV at lower temps. below the mobility maximum Realization of simple logic gate circuits such as NOT (inverter), NOR, and NAND is demonstrated.

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(field-effect transistors made by functionalized pentacene with logic gate applications)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)

IT **Field effect transistors**
(field-effect transistors made by functionalized pentacene with logic gate applications)

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(field-effect transistors made by functionalized pentacene with logic gate applications)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 6 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:934489 HCAPLUS Full-text

DOCUMENT NUMBER: 145:408263

TITLE: Characterization of functionalized pentacene field-effect transistors and its logic gate application

AUTHOR(S): Park, Jin Gyu; Vasic, Relja; Brooks, James S.; Anthony, John E.

CORPORATE SOURCE: National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, 32310, USA

SOURCE: Journal of Applied Physics (2006), 100(4), 044511/1-044511/6
CODEN: JAPIAU; ISSN: 0021-8979

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 Sep 2006

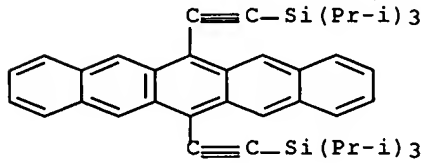
AB Functionalized pentacene, 6,13-bis(tri-isopropylsilylethynyl)pentacene (TIPS-pentacene), field-effect transistors (FETs) were made by both thermal evaporation and solution deposition methods, and the mobility was measured as a function of temperature and intensity of incident illumination. The field-effect mobility (μFET) has a gate-voltage dependent activation energy. A nonmonotonic temperature dependence was observed at high gate voltage (VG<-30 V) with an activation energy of Ea.apprx.60-170 meV, depending on the fabrication procedure. The gate-voltage dependent mobility and nonmonotonic

temperature dependence indicate that shallow traps play important role in the transport of TIPS-pentacene films. The current in the saturation regime as well as the mobility increase upon light illumination in proportion to the light intensity, mainly due to the photoconductive response. Transistors with submicron channel length showed unsaturating current-voltage characteristics due to the short channel effect. Realization of simple circuits such as NOT (inverter), NOR, and NAND logic gates are demonstrated for thin film TIPS-pentacene transistors.

IT **373596-08-8**, 6,13-Bis(tri-isopropylsilylethynyl)pentacene
(functionalized pentacene field-effect transistor and its logic gate application)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)

IT Activation energy
Electric current-potential relationship
Electric field
Field effect transistors
Gate potential
(functionalized pentacene field-effect transistor and its logic gate application)

IT **373596-08-8**, 6,13-Bis(tri-isopropylsilylethynyl)pentacene
(functionalized pentacene field-effect transistor and its logic gate application)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 7 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:759225 HCAPLUS Full-text

DOCUMENT NUMBER: 145:366898

TITLE: Thermally Induced Solid-State Phase Transition of Bis(triisopropylsilylethynyl)pentacene Crystals

AUTHOR(S): Chen, Jihua; Anthony, John; Martin, David C.

CORPORATE SOURCE: Macromolecular Science and Engineering, Materials Science and Engineering, Biomedical Engineering, The University of Michigan, Ann Arbor, MI, 48109, USA

SOURCE: Journal of Physical Chemistry B (2006), 110(33), 16397-16403
CODEN: JPCBFK; ISSN: 1520-6106

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

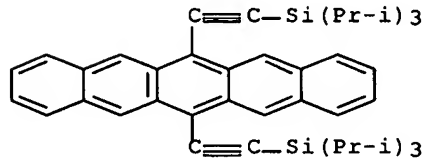
ED Entered STN: 03 Aug 2006

AB Bis(triisopropylsilylethynyl)pentacene (TIPS pentacene) is a functionalized pentacene derivative designed to enhance both the solution solubility and solid-state packing of pentacene. The authors report the authors' observations of a solid-state phase transition in TIPS pentacene crystals upon heating or cooling. Evidence from DSC, hot-stage optical microscopy, as well as high-temperature x-ray and electron diffraction are presented. A reasonable match with exptl. data was obtained with mol. modeling. The authors' results reveal that the transition is associated with a conformational reorganization of the TIPS side groups, accompanied by a slight decrease in the acene-to-acene spacing and a shift of the overlap between the neighboring pentacene units. The observed cracking should be avoided or minimized in TIPS pentacene-based thin film transistors to maintain their relatively high charge carrier mobility.

IT **373596-08-8**
(thermally induced solid-state phase transition of bis(triisopropylsilylethynyl)pentacene crystals)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 75-7 (Crystallography and Liquid Crystals)
Section cross-reference(s): 29, **76**

IT **373596-08-8**
(thermally induced solid-state phase transition of bis(triisopropylsilylethynyl)pentacene crystals)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

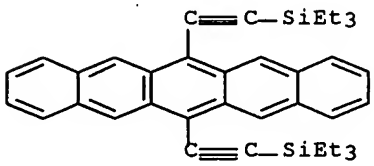
L63 ANSWER 8 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:496013 HCAPLUS Full-text
DOCUMENT NUMBER: 144:499938
TITLE: Organic thin-film transistors and fabrication of organic thin-film transistors
INVENTOR(S): Takemura, Chiyoko; Sugisaki, Reiko; Katakura, Rie; Tanaka, Tatsuo; Hirai, Katsura; Kita, Hiroshi
PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006054686	A1	20060526	WO 2005-JP21223	20051118

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,

CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,
KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT,
TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.: JP 2004-334413 A 20041118

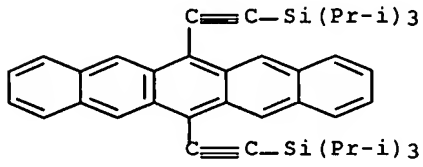
ED Entered STN: 26 May 2006
AB The title organic FET fabrication process involves coating on a substrate with a liquid material containing an organic semiconductor material and an aliphatic hydrocarbon. The coating process gives the organic FETs good and easy film formation and excellent transistor characteristics without coating defects.
IT **398128-81-9**
(organic transistor coating material; organic thin-film transistors and fabrication of organic thin-film transistors)
RN 398128-81-9 HCAPLUS
CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 74
IT **398128-81-9** 851817-11-3 871310-70-2
(organic transistor coating material; organic thin-film transistors and fabrication of organic thin-film transistors)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 9 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:288998 HCAPLUS Full-text
DOCUMENT NUMBER: 146:53000
TITLE: High mobility solution-processed OTFTs
AUTHOR(S): Park, Sung Kyu; Kuo, Chung-Chen; Anthony, John E.; Jackson, Thomas N.
CORPORATE SOURCE: Center for Thin Film Devices and Materials Research Institute, Department of Electrical Engineering, Penn State University, University Park, PA, 16802, USA
SOURCE: Technical Digest - International Electron Devices Meeting (2005) 113-116
CODEN: TDIMD5; ISSN: 0163-1918
PUBLISHER: Institute of Electrical and Electronics Engineers

DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 29 Mar 2006
AB Using bis(triisopropylsilylethynyl)pentacene (TIPS - pentacene), we have fabricated solution-processed OTFTs with mobility near 1.5 cm2/V · s. This is the highest mobility reported to date for solution-processed OTFTs. The organic semiconductor thin films used in these devices require no high temperature processing and also show remarkable mol. ordering, possibly related to the observed high mobility. This work demonstrates that solution processed OTFTs with characteristics similar to vacuum deposited devices are possible and provides a possible path to low-cost organic electronics processing.
IT **373596-08-8**
(fabrication of solution-processed organic thin film transistors using bis(triisopropylsilylethynyl)pentacene)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
IT **373596-08-8**
(fabrication of solution-processed organic thin film transistors using bis(triisopropylsilylethynyl)pentacene)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

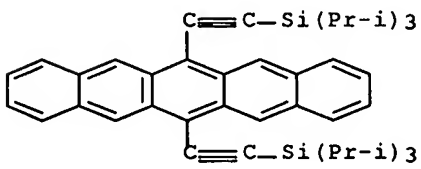
L63 ANSWER 10 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:118185 HCAPLUS Full-text
DOCUMENT NUMBER: 144:330969
TITLE: Clustering of Pentacene and Functionalized Pentacene Ions in a Matrix-Assisted Laser Desorption/Ionization Orthogonal TOF Mass Spectrometer
AUTHOR(S): Shcherbyna, Svitlana V.; Bohme, Diethard K.; Baranov, Vladimir I.; Loboda, Alexander; Swartz, Christopher R.; Anthony, John E.
CORPORATE SOURCE: Department of Physics and Astronomy, Department of Chemistry, Center for Research in Mass Spectrometry, York University, Toronto, ON, Can.
SOURCE: Journal of the American Society for Mass Spectrometry (2006), 17(2), 222-229
CODEN: JAMSEF; ISSN: 1044-0305
PUBLISHER: Elsevier Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 09 Feb 2006

AB A high-performance orthogonal time-of flight (TOF) mass spectrometer, in combination with the matrix assisted laser desorption/ionization (MALDI) source operating at elevated pressure (.apprx.1 torr in N2), was used to perform MALDI-TOF analyses of pentacene and some of its derivs. with and without an added matrix. These mols. are among the most interesting semiconductor materials for organic thin film transistor applications (OTFT). The observation of ion-mol. reactions between "cold" analyte ions and neutral analyte mols. in the gas phase has provided some insight into the mechanism of pentacene cluster formation and its functionalized derivs. Furthermore, some of the matrixes employed to assist the desorption/ionization process of these compds. were observed to influence the outcome via ion-mol. reactions of analyte ions and matrix mols. in the gas phase. The stability and reactivity of the compds. and their clusters in the MALDI plume during gas-phase expansion were evaluated; possible structures of the resulting clusters are discussed. The MALDI-TOF technique was also helpful in distinguishing between two isomeric forms of bis-[(triisopropylsilyl)-ethynyl]-pentacene.

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
373596-09-9, 5,14-Bis(triisopropylsilylethynyl)pentacene
(clustering of pentacene and functionalized pentacene ions in matrix-assisted laser desorption/ionization orthogonal TOF mass spectrometer)

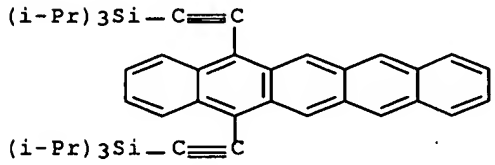
RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 373596-09-9 HCAPLUS

CN Silane, (5,14-pentacenediyldi-2,1-ethynediyl)bis[tris(1-methylethyl)-(9CI) (CA INDEX NAME)

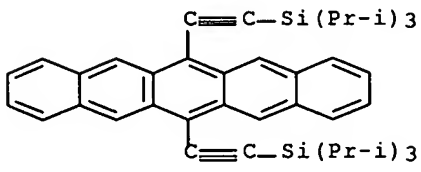


CC 22-8 (Physical Organic Chemistry)
Section cross-reference(s): 73, 74, **76**

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
373596-09-9, 5,14-Bis(triisopropylsilylethynyl)pentacene
859849-51-7 859849-52-8
(clustering of pentacene and functionalized pentacene ions in matrix-assisted laser desorption/ionization orthogonal TOF mass spectrometer)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 11 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1121340 HCAPLUS Full-text
DOCUMENT NUMBER: 144:161242
TITLE: Functionalized pentacene field-effect transistors with logic circuit applications
AUTHOR(S): Park, Jin Gyu; Vasic, Relja; Brooks, James S.; Anthony, John E.
CORPORATE SOURCE: National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL, 32310, USA
SOURCE: Los Alamos National Laboratory, Preprint Archive, Condensed Matter (2005) 1-16, arXiv:cond-mat/0510317, 12 Oct 2005
CODEN: LNCMFR
URL: http://xxx.lanl.gov/pdf/cond-mat/
PUBLISHER: Los Alamos National Laboratory
DOCUMENT TYPE: Preprint
LANGUAGE: English
ED Entered STN: 19 Oct 2005
AB Functionalized pentacene, 6,13-bis(triisopropylsilylethynyl)pentacene (TIPS-pentacene), field-effect transistors(FETs) were made by thermal evaporation or solution deposition method and the mobility was measured as a function of temperature and light power. The field-effect mobility (μFET) has a gate-voltage dependent activation energy. A non-monotonic temperature dependence was observed at high gate voltage (VG < -30 V) with activation energy Ea .apprx. 60-170 meV,depending on the fabrication procedure. The gate-voltage dependent mobility and non-monotonic temperature dependence indicates that shallow traps play important role in the transport of TIPS-pentacene films. The current in the saturation regime as well as mobility increase upon light illumination and is proportional to the light intensity, mainly due to the photoconductive response. Transistors with submicron channel length showed un-saturating current-voltage characteristics due to the short channel effect. Realization of simple circuits such as NOT(inverter), NOR, and NAND logic gates are demonstrated for thin film TIPS-pentacene transistors.
IT **373596-08-8**, 6, 13-Bis(triisopropylsilylethynyl) pentacene
(elec. and optical properties of 6, 13-bis(triisopropylsilylethynyl) pentacene field-effect transistors with logic circuit applications)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
IT Activation energy
Electric current-potential relationship

Field effect transistors
(elec. and optical properties of 6, 13-bis(triisopropylsilylethynyl) pentacene field-effect transistors with logic circuit applications)

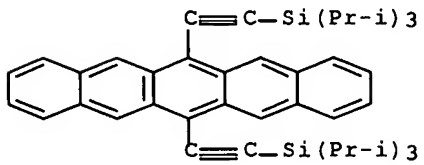
IT **373596-08-8**, 6, 13-Bis(triisopropylsilylethynyl) pentacene
(elec. and optical properties of 6, 13-bis(triisopropylsilylethynyl) pentacene field-effect transistors with logic circuit applications)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 12 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1052229 HCAPLUS Full-text
DOCUMENT NUMBER: 144:118736
TITLE: Metal-organic pentacene derivative with well ordered morphology for the application of low voltage organic thin film transistors
AUTHOR(S): Roy, V. A. L.; Xu, Zong-Xiang; Zhi, Yong-gang; Yu, Sze-Chit; Che, Chi-Ming
CORPORATE SOURCE: Department of chemistry and the HKU-CAS Joint Laboratory on New Materials, The Univ. of Hong Kong, Hong Kong, SAR, Peop. Rep. China
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2005), 5940(Organic Field-Effect Transistors IV), 59401L/1-59401L/7
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 02 Oct 2005
AB Metal organic pentacene based low voltage organic thin film transistors with field effect mobility as large as 0.8 cm2/V-1s-1 and on/off current ratio larger than 106 have been fabricated. Thin films deposited by evaporation at different deposition rate has different morphol. which leads to a difference in transistor characteristics. The films with a deposition rate of 2 A/s has better morphol. and also the transistor behavior. AFM (atomic force microscope) and STM (scanning tunneling microscope) were used to understand the morphol. and ordering of the mols. on the Si surface which helps the transistor to operate at low voltages. The results presented here show a strong correlation between mol. ordering and the need of well-ordered films for the performance of organic thin film transistors (OTFT's).

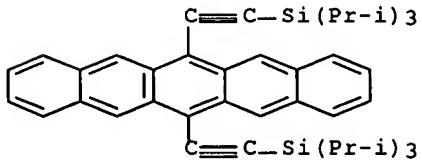
IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(metal-organic pentacene derivative with well ordered morphol. for application of low voltage organic thin film transistors)

RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)

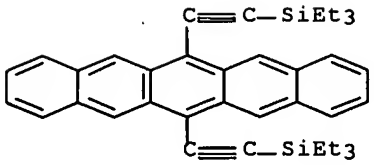


CC 76-3 (**Electric** Phenomena)
IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(metal-organic pentacene derivative with well ordered morphol. for application of low voltage organic thin film transistors)
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 13 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:985709 HCAPLUS Full-text
DOCUMENT NUMBER: 143:430737
TITLE: Persistent photoexcited conducting states in functionalized pentacene
AUTHOR(S): Tokumoto, T.; Brooks, J. S.; Graf, D.; Choi, E. S.; Biskup, N.; Eaton, D. L.; Anthony, J. E.; Odom, S. A.
CORPORATE SOURCE: NHMFL/Physics, Florida State University, Tallahassee, FL, 32310, USA
SOURCE: Synthetic Metals (2005), 152(1-3), 449-452
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 09 Sep 2005
AB We report a study of long-lived photo-excited states in single crystals of functionalized forms of pentacene: 6,13-bis(triisopropylsilylethynyl)pentacene, 6,13-bis(triethylsilylethynyl)pentacene, and 6,13-bis(triethylgermylethynyl)pentacene, organic semiconductors with band gaps ≈1 eV. The relaxation rates are thermally activated, as determined from time and temperature-dependent measurements of the photocond. after illumination. These states can be produced in a stable population at temps. below 150 K. Hence, after low temperature illumination, thermally stimulated current (TSC) is observed as temperature increases. Trap energies associated with these states can be estimated by anal. of the TSC signal.
IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
398128-81-9, 6,13-Bis(triethylsilylethynyl)pentacene
(persistent photoexcited conducting states in functionalized pentacene)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)

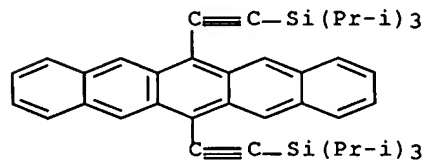


RN 398128-81-9 HCAPLUS
CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-5 (**Electric** Phenomena)
IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
398128-81-9, 6,13-Bis(triethylsilylethynyl)pentacene
868405-97-4
(persistent photoexcited conducting states in functionalized pentacene)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 14 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:921283 HCAPLUS Full-text
DOCUMENT NUMBER: 143:406224
TITLE: Conjugated polymers containing large soluble diethynyl iptycenes
AUTHOR(S): Zhao, Dahui; Swager, Timothy M.
CORPORATE SOURCE: Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA
SOURCE: Organic Letters (2005), 7(20), 4357-4360
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:406224
ED Entered STN: 29 Aug 2005
AB An efficient synthesis of large iptycenes appended with alkoxy and ethynyl substituents is reported. The rigid shape-persistent iptycene scaffold prevents interactions between the polymer backbones and can be used to solubilize polymers containing less soluble but readily accessible comonomers to prepare functional, solution-processible poly(p- phenyleneethynylene) (PPE)-conjugated polymers. These polymers are highly emissive in thin films without significant excimer/exciplex formation as a result of the effective chain isolation enforced by the iptycene units.
IT **373596-08-8**
(preparation and absorption and fluorescece of conjugated polyphenyleneethynylene containing large soluble diethynyl iptycenes)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73
IT Absorption spectra
Fluorescence
(preparation and absorption and fluorescece of conjugated polyphenyleneethynylene containing large soluble diethynyl iptycenes)
IT 106-51-4, 2,5-Cyclohexadiene-1,4-dione, reactions 392-57-4, 1,4-Diiodotetrafluorobenzene 638-45-9, n-Hexyl iodide 3519-82-2 116195-81-4, 2,5-Diiodopyridine **373596-08-8**
(preparation and absorption and fluorescece of conjugated polyphenyleneethynylene containing large soluble diethynyl iptycenes)
REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 15 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:732726 HCAPLUS Full-text
DOCUMENT NUMBER: 143:219179
TITLE: Fluorescent semiconductive polymers and devices comprising them and analytical methods using them
INVENTOR(S): Swager, Timothy M.; Kim, Youngmi
PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA
SOURCE: PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005073338	A2	20050811	WO 2004-US40729	20041206
WO 2005073338	A3	20051208		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005196775	A1	20050908	US 2004-5634	20041206
PRIORITY APPLN. INFO.:			US 2003-526886P	P 20031204

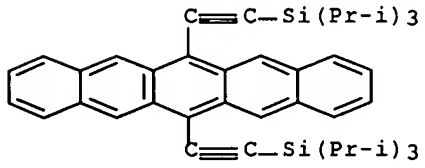
ED Entered STN: 12 Aug 2005
AB Fluorescent semiconductive polymers are described which have a conjugated backbone and electron-withdrawing groups bonded to the polymer. Methods of detecting analytes (especially biol. analytes) are described which entail contacting an analyte with the fluorescent semiconductive polymer, thereby aggregating the polymer and, optionally, forming an emissive exciplex with a maximum emission wavelength which is not the same as the maximum emission wavelength of the polymer; and detecting the partial or complete quenching of the fluorescence of the polymer and/or the emission of the exciplex. **Light-**

emitting devices, photovoltaic devices, and sensors, including biosensors, comprising the fluorescent semiconductive polymers are also described.

IT **373596-08-8P**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(fluorescent semiconductive polymers and devices comprising them and anal. methods using them)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



IC ICM C09K011-06
ICS C08G061-02; G01N033-53; H01L051-30; H01L031-00

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 9, 38, **76**

ST **light emitting** device fluorescent semiconductive polymer; photovoltaic device fluorescent semiconductive polymer; sensor fluorescent semiconductive polymer; biosensor fluorescent semiconductive polymer; fluorescent semiconductive polymer

IT **Electroluminescent devices**
Fluorescent indicators
Optical sensors
Photoelectric devices
(fluorescent **semiconductive** polymers and devices comprising them and anal. methods using them)

IT 781-92-0P, 1,4-Dimethylanthracene 2375-96-4P 4546-04-7P, 1,4-Xylenebisdiethylphosphonate 86703-79-9P 123524-59-4P 132877-69-1P 185446-05-3P 344404-39-3P 366008-67-5P **373596-08-8P**, 6,13-Bis(triisopropylsilylethynyl)pentacene 660852-64-2P 660852-65-3P 660852-66-4P 660852-67-5P 660852-68-6P 660852-69-7P 847450-35-5P 847450-36-6P 847450-39-9P 862265-17-6P 862265-19-8P 862265-21-2P 862265-23-4P 862265-25-6P 862265-26-7P 862265-27-8P 862265-28-9P 862265-29-0P 862265-30-3P 862265-33-6P 862265-34-7P 862265-35-8P 862265-48-3P 862265-49-4P 862265-50-7P 862265-51-8P 862265-52-9P 862265-56-3P
(fluorescent semiconductive polymers and devices comprising them and anal. methods using them)

L63 ANSWER 16 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:497080 HCAPLUS Full-text
DOCUMENT NUMBER: 143:51861
TITLE: Thin **film** transistor
INVENTOR(S): Takenobu, Hiroshi; Iwasa, Yoshihiro
PATENT ASSIGNEE(S): Japan Science and Technology Agency, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

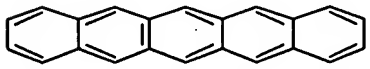
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005150410	A	20050609	JP 2003-386114 <--	20031117
PRIORITY APPLN. INFO.:			JP 2003-386114 <--	20031117

ED Entered STN: 10 Jun 2005

AB A stable thin **film** transistor having a high mobility comprises a gate electrode, a gate insulator **film** on the gate electrode, source and drain electrodes on the gate insulator **film**, and a semiconductor **film** of C nanotubes and their combination with other material between the source and drain electrodes. Specifically, the other material may comprise a fullerene, metal-containing fullerene.

IT **135-48-8**, Pentacene
(carbon nanotube thin **film** transistor)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



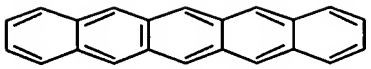
IC ICM H01L029-786
ICS H01L029-06; H01L051-00
CC 76-3 (**Electric** Phenomena)
IT **Semiconductor films**
Thin **film** transistors
(carbon nanotube thin **film** transistor)
IT Fullerenes
Fullerides
Polyacetylenes, uses
(carbon nanotube thin **film** transistor)
IT Nanotubes
(carbon; carbon nanotube thin **film** transistor)
IT 210347-56-1, F 8T2
(F 8T2; carbon nanotube thin **film** transistor)
IT 81-30-1
(NTCDA; carbon nanotube thin **film** transistor)
IT 5690-24-4
(NTCDI; carbon nanotube thin **film** transistor)
IT 128-69-8
(PTCDA; carbon nanotube thin **film** transistor)
IT 18389-97-4, 11,11,12,12-Tetracyano-1,4-naphthoquinodimethane
(TCNNQ; carbon nanotube thin **film** transistor)
IT 996-70-3, Tetrakis(dimethylamino)ethylene
(TDAE; carbon nanotube thin **film** transistor)
IT 110-02-1D, Thiophene, 3-alkyl, homopolymers 128-65-4
135-48-8, Pentacene 574-93-6, Phthalocyanine 1081-34-1, 2,2':5',2''-Terthiophene 1518-16-7, TCNQ 9002-86-2, Polyvinyl chloride 9002-88-4, Polyethylene 9002-98-6, PEI 9003-53-6, Polystyrene 14916-87-1 25067-58-7, Polyacetylene 25233-34-5, Poly-thiophene 29261-33-4 31366-25-3, TTF 55259-49-9, TMTSF 66280-99-7, Polythienylenevinylene 78151-58-3 88493-55-4,

α-Sexithiophene 97606-53-6 99685-96-8, [5,6]Fullerene-C60-Ih
104934-50-1 105314-21-4 115383-22-7, [5,6]Fullerene-C70-D5h(6)
132814-92-7, α-ω-Dihexyl-quaterthiophene 135113-15-4,
Fullerene-C76 135113-16-5, Fullerene-C84 136316-32-0,
Fullerene-C78 136846-59-8, Fullerene-C82 136846-62-3,
Fullerene-C96 137433-42-2 146341-33-5 151271-43-1,
α-ω-Dihexyl-sexithiophene 156669-23-7,
α-ω-Dihexylquinquethiophene 268724-96-5 527680-51-9
(carbon nanotube thin **film** transistor)

L63 ANSWER 17 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:353782 HCAPLUS Full-text
DOCUMENT NUMBER: 142:421659
TITLE: Protective **layer**-containing organic semiconductor field effect transistor and its manufacture
INVENTOR(S): Yan, Donghang; Yuan, Jianfeng; Yan, Xuanjun
PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1437272	A	20030820	CN 2003-105024 <--	20030303
JP 2004266267	A	20040924	JP 2004-17237 <--	20040126
KR 2004078548	A	20040910	KR 2004-8308 <--	20040209
PRIORITY APPLN. INFO.:			CN 2003-105024 A <--	20030303

ED Entered STN: 25 Apr 2005
AB The organic semiconductor field effect transistor consists of a substrate, a gate electrode, a gate insulating **layer** on the gate electrode, 2 organic semiconductor **layers** on the gate insulating **layer**, a protective **layer** on the semiconductor **layer**, and a source/drain. The organic semiconductor **layer** is phthalocyanine Cu, phthalocyanine Ni, phthalocyanine Zn, phthalocyanine Co, phthalocyanine Pt, phthalocyanine, phthalocyanine vanadyl, phthalocyanine titanyl, polythiophene, naphthacene, pentacene, pyrene, pyrenedicarboxylic anhydride, fullerene, fluorinated phthalocyanine Cu, fluorinated phthalocyanine Zn, fluorinated phthalocyanine Fe, and/or fluorinated phthalocyanine Co. The protective **layer** is inorg. compound, organic compound, and/or polymer.
IT **135-48-8P**, Pentacene
(organic semiconductor field effect transistor containing protective **layer**)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40
CC 76-3 (**Electric** Phenomena)
IT Electric insulators
Field effect transistors
Semiconductor devices
Semiconductor films
(organic semiconductor field effect transistor containing protective **layer**)
IT Fluoropolymers, uses
Metallophthalocyanines
(organic semiconductor field effect transistor containing protective **layer**)
IT 147-14-8, Copper phthalocyanine
(organic semiconductor field effect transistor containing protective **layer**)
IT 92-24-0P, Naphthacene 129-00-0P, Pyrene, uses **135-48-8P**, Pentacene 574-93-6P, Phthalocyanine 1314-61-0P, Tantalum(V) oxide 3317-67-7P, Cobalt Phthalocyanine 7440-25-7P, Tantalum, uses 9002-89-5P, Polyvinyl alcohol 13930-88-6P, Vanadyl Phthalocyanine 14055-02-8P, Nickel Phthalocyanine 14075-08-2P, Platinum Phthalocyanine 14320-04-8P, Zinc Phthalocyanine 25233-34-5P, Polythiophene 26201-32-1P, Titanyl Phthalocyanine 76895-43-7P, 3H,5H-Pyreno[1,10-cd]pyran-3,5-dione 99685-96-8P, Fullerene
(organic semiconductor field effect transistor containing protective **layer**)

L63 ANSWER 18 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:281871 HCAPLUS Full-text
DOCUMENT NUMBER: 142:346735
TITLE: Field effect type organic transistor and process for production thereof
INVENTOR(S): Nakamura, Shinichi
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005029605	A1	20050331	WO 2004-JP13996 <--	20040916

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,

AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2005093921	A	20050407	JP 2003-328525 <--	20030919
US 2007034861	A1	20070215	US 2005-555374 <--	20051102
PRIORITY APPLN. INFO.:			JP 2003-328525 <--	A 20030919
			WO 2004-JP13996	W 20040916

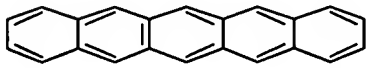
ED Entered STN: 01 Apr 2005

AB A field effect type organic transistor with high carrier mobility and on-off ratio is provided which comprises a source electrode, a drain electrode, and a gate electrode, a gate insulating **layer**, and an organic semiconductor **layer**, wherein the gate insulating **layer** contains an optical anisotropic material having an anisotropic structure formed by light irradiation, and the organic semiconductor **layer** is in contact with the anisotropic structure.

IT **135-48-8**, Pentacene
(field effect type organic transistor and fabrication)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 73, 74

ST org FET optical anisotropic **film**

IT Optical **films**
(anisotropic; field effect type organic transistor and fabrication)

IT Dielectric **films**
Field effect transistors
Gate contacts
Isomerization
Polarized light
(field effect type organic transistor and fabrication)

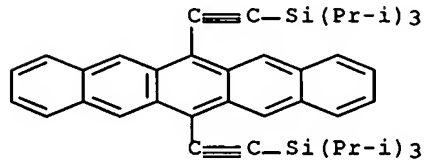
IT Anisotropic materials
(optical **films**; field effect type organic transistor and fabrication)

IT **Semiconductor films**
(organic; field effect type organic transistor and fabrication)

IT 91-64-5D, Coumarin, derivs. 94-41-7D, Chalcone, derivs. 103-33-3D, Azobenzene, derivs. **135-48-8**, Pentacene 147-14-8, Copper phthalocyanine 16786-36-0D, Cinnamoyl, derivs. 104934-50-1, Poly(3-hexylthiophene) 126213-51-2 147237-94-3 177856-50-7 244064-38-8 848154-35-8 848678-53-5
(field effect type organic transistor and fabrication)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 19 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:248993 HCAPLUS Full-text
DOCUMENT NUMBER: 142:473485
TITLE: Organic Field-Effect Transistors from Solution-Deposited Functionalized Acenes with Mobilities as High as 1 cm2/V·s
AUTHOR(S): Payne, Marcia M.; Parkin, Sean R.; Anthony, John E.; Kuo, Chung-Chen; Jackson, Thomas N.
CORPORATE SOURCE: Department of Chemistry, University of Kentucky, Lexington, KY, 40506-0055, USA
SOURCE: Journal of the American Chemical Society (2005), 127(14), 4986-4987
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 23 Mar 2005
AB The authors present the device parameters for organic field-effect transistors fabricated from solution-deposited films of functionalized pentacene and anthradithiophenes. These materials are easily prepared in one or two steps from com. available starting materials and are purified by simple recrystn. For a solution-deposited film of functionalized pentacene, hole mobility of 0.17 cm2/V·s was measured. The functionalized anthradithiophenes showed behavior strongly dependent on the substituents, with hole mobilities ≤1.0 cm2/V·s.
IT **373596-08-8**
(device parameters for organic field-effect transistors fabricated from solution-deposited films of functionalized pentacenes and anthradithiophenes)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25, 28
IT Drain current
Electric current-potential relationship
Field effect transistors
Hole mobility
(device parameters for organic field-effect transistors fabricated from solution-deposited films of functionalized pentacenes and anthradithiophenes)
IT **373596-08-8** 775324-33-9 775324-34-0 851817-11-3 851817-12-4 851817-13-5 851817-14-6
(device parameters for organic field-effect transistors fabricated from solution-deposited films of functionalized pentacenes and anthradithiophenes)
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR

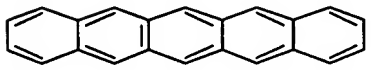
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L63 ANSWER 20 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:239279 HCAPLUS Full-text
DOCUMENT NUMBER: 142:308086
TITLE: Vertical organic field effect transistor
INVENTOR(S): Yang, Yang; Ma, Liping
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005024907	A2	20050317	WO 2004-US27579 <--	20040824
WO 2005024907	A3	20050915		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2537198	A1	20050317	CA 2004-2537198 <--	20040824
EP 1668716	A2	20060614	EP 2004-782136 <--	20040824
R: DE, FR, GB				
CN 1875496	A	20061206	CN 2004-80030945 <--	20040824
JP 2007504650	T	20070301	JP 2006-524815 <--	20040824
US 2006284230	A1	20061221	US 2006-569755 <--	20060224
PRIORITY APPLN. INFO.:			US 2003-498925P	P 20030829
			<--	
			US 2004-546480P	P 20040219
			WO 2004-US27579	W 20040824

ED Entered STN: 18 Mar 2005
AB A vertical organic field effect transistor that includes an active cell and a capacitor that share a common source electrode. The active cell includes a semiconductor layer that is sandwiched between a drain electrode and the common source electrode. The capacitor includes a dielec. layer that is sandwiched between a gate electrode and the common source electrode. The common source electrode allows control of elec. current between the source and drain electrodes by controlling the elec. potential that is applied to the gate electrode.
IT **135-48-8**, Pentacene

(vertical organic field effect transistor integrated circuit)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



IC ICM H01L
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 73
IT Capacitors
Electroluminescent devices
Field effect transistors
Gate contacts
Integrated circuits
(vertical organic field effect transistor integrated circuit)
IT **135-48-8**, Pentacene 148-24-3, 8-Hydroxyquinoline, processes 7429-90-5, Aluminum, processes 7440-50-8, Copper, processes 7789-24-4, Lithium fluoride, processes 99685-96-8, Fullerene
(vertical organic field effect transistor integrated circuit)

L63 ANSWER 21 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:141434 HCAPLUS Full-text
DOCUMENT NUMBER: 142:252286
TITLE: Field effect transistor for use in semiconductor devices
INVENTOR(S): Schroder, Raoul; Grell, Martin
PATENT ASSIGNEE(S): The University of Sheffield, UK
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005015653	A1	20050217	WO 2004-GB3428 <--	20040809
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
GB 2404785	A	20050209	GB 2003-18522 <--	20030807
GB 2406437	A	20050330	GB 2004-6334 <--	20040322

PRIORITY APPLN. INFO.: GB 2003-18522 A 20030807
<--
GB 2004-6334 A 20040322

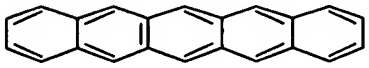
ED Entered STN: 18 Feb 2005

AB The present invention relates to field effect transistor comprising source and drain electrodes separated by a semiconductor body region, and a gate electrode separated from the semiconductor body region by a gate insulator region, in which the gate insulator region comprises a noncryst., preferably solution-processed, organic like material. Also, the present invention also relates to a method of fabricating a field effect transistor comprising the following steps: (a) forming a gate electrode; (b) forming a gate insulator region; (c) forming a semiconductor body region separated from the gate electrode by the gate insulator region; and (d) forming source and drain electrodes separated from each other by the semiconductor body region, such that the gate insulator region comprises a solution processed non crystalline organic like material. A transistor in accordance with an embodiment of the present invention can be used in memory devices to store 1 bit per 1 component and the memory is permanent but re-writable. Such transistors also have application in devices such as smart cards, liquid crystal displays, and organic **light emitting** displays.

IT **135-48-8**, Pentacene
(field effect transistor for use in semiconductor devices)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L021-28; H01L021-316

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38, 73, 74

IT Conducting polymers
Dielectric films
Electric contacts
Electroluminescent devices
Gate contacts
Liquid crystal displays
Semiconductor device fabrication
Semiconductor memory devices
(field effect transistor for use in semiconductor devices)

IT **Field effect transistors**
(organic; field effect transistor for use in semiconductor devices)

IT **135-48-8**, Pentacene 25718-70-1 25805-74-7, MXD 6
(field effect transistor for use in semiconductor devices)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 22 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:944077 HCAPLUS Full-text
DOCUMENT NUMBER: 142:122907
TITLE: Photochemical Stability of Pentacene and a Substituted Pentacene in Solution and in Thin

Films

AUTHOR(S): Maliakal, Ashok; Raghavachari, Krishnan; Katz, Howard; Chandross, Edwin; Siegrist, Theo

CORPORATE SOURCE: Bell Laboratories, Lucent Technologies, Murray Hill, NJ, 07974, USA

SOURCE: Chemistry of Materials (2004), 16(24), 4980-4986
CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

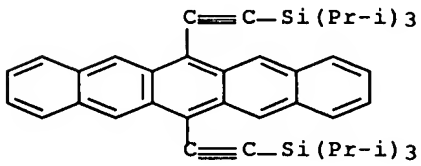
ED Entered STN: 09 Nov 2004

AB The organic semiconductor pentacene (1) has shown the highest field effect mobilities in thin films of any organic semiconductor, yet suffers from instability toward oxidation 6,13-Bis(triisopropylsilylethynyl)pent acene (2) has been reported as an interesting functionalized pentacene which is soluble in common organic solvents and exhibits high carrier mobility (>0.1 cm2/Vs) in thin film transistor devices. In our investigations of 2, we were surprised by its remarkable stability in solution Using UV-vis spectroscopy we observe that under ambient light conditions, 2 is approx. 50+ more stable toward degradation in air-saturated THF solution as compared to unsubstituted pentacene. Previous investigators have implicated oxygen in the mechanism of photodegrdn. of pentacene. In this study, quantum chemical calcns. have been performed which demonstrate that alkynyl functionalization at the 6 and 13 positions reduces the rate of photooxidn. in two ways. First, alkynyl substitution reduces the triplet energy of 2 considerably, thereby preventing singlet oxygen sensitization. Second, alkynyl substitution lowers the LUMO energy for 2 as compared to that of pentacene. We propose that the lower LUMO energy hinders photooxidn. by reducing the rate of electron transfer from photoexcited 2 to oxygen. In thin films, pentacene is more stable to photooxidn. than 2 when exposed to UV irradiation The stabilization of pentacene in the solid state is discussed in the context of solid-state interactions.

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(photochem. stability of pentacene and substituted pentacene in solution and in thin films)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): **76**

IT 135-48-8, Pentacene **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
(photochem. stability of pentacene and substituted pentacene in solution and in thin films)

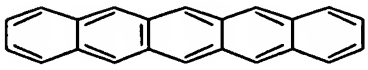
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE

RE FORMAT

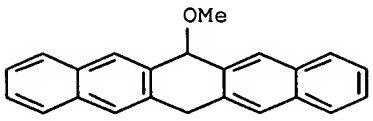
L63 ANSWER 23 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:801864 HCAPLUS Full-text
DOCUMENT NUMBER: 141:305724
TITLE: Organic thin-**film** transistors and fabrication of TFTs thereof
INVENTOR(S): Katakura, Toshie; Hirai, Katsura; Fukuda, Mitsuhiro; Kita, Hiroshi
PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004273677	A	20040930	JP 2003-61194 <--	20030307
PRIORITY APPLN. INFO.:			JP 2003-61194 <--	20030307

OTHER SOURCE(S): MARPAT 141:305724
ED Entered STN: 01 Oct 2004
AB The title fabrication involves (1) forming a gate contact and a gate insulator **film** on a substrate, (2) forming on the gate insulator **film** with an acene precursor compounded with protonate-detaching group, and (3) heating the substrate to give the acene precursor into an acene semiconductor **film**. The process provides the TFTs with high carrier mobility at high productivity.
IT **135-48-8P**, Pentacene
(carrier mobility in, organic semiconductor **film**; organic thin-**film** transistors and fabrication of TFTs from acene precursors)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)

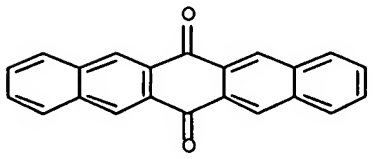


IT **757971-44-1P**
(organic thin-**film** transistors and fabrication of TFTs from acene precursors)
RN 757971-44-1 HCAPLUS
CN Pentacene, 6,13-dihydro-6-methoxy- (9CI) (CA INDEX NAME)

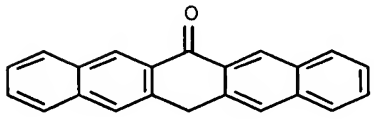


IT **3029-32-1**, 6,13-Pentacenedione **408311-42-2**, 6(13H)-Pentacenone **757971-43-0**
(organic thin-**film** transistors and fabrication of TFTs from acene precursors)

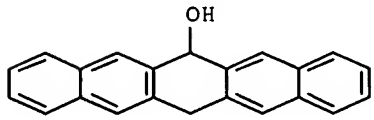
RN 3029-32-1 HCAPLUS
CN 6,13-Pentacenedione (CA INDEX NAME)



RN 408311-42-2 HCAPLUS
CN 6(13H)-Pentacenone (CA INDEX NAME)



RN 757971-43-0 HCAPLUS
CN 6-Pentacenol, 6,13-dihydro- (CA INDEX NAME)



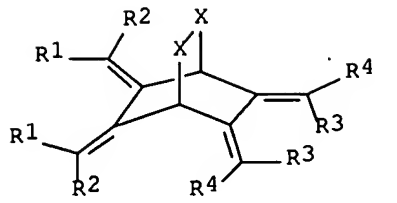
IC ICM H01L029-786
ICS H01L051-00
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25
ST pentacene acene org semiconductor **film** precursor heating TFT
IT Heating
(acene precursors; organic thin-**film** transistors and fabrication of TFTs from acene precursors)
IT **Semiconductor films**
(acenes, fabrication by heating precursor; organic thin-**film** transistors and fabrication of TFTs from acene precursors)
IT Electric current carriers
(mobility; organic thin-**film** transistors and fabrication of TFTs from acene precursors)
IT Polyacenes
(organic semiconductor; organic thin-**film** transistors and fabrication of TFTs from acene precursors)

IT Thin **film** transistors
(p-channel enhancement; organic thin-**film** transistors and fabrication of TFTs from acene precursors)
IT **135-48-8P**, Pentacene
(carrier mobility in, organic semiconductor **film**; organic thin-**film** transistors and fabrication of TFTs from acene precursors)
IT **757971-44-1P**
(organic thin-**film** transistors and fabrication of TFTs from acene precursors)
IT **3029-32-1**, 6,13-Pentacenedione **408311-42-2**, 6(13H)-Pentacenone **757971-43-0**
(organic thin-**film** transistors and fabrication of TFTs from acene precursors)

L63 ANSWER 24 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:757059 HCAPLUS Full-text
DOCUMENT NUMBER: 141:287235
TITLE: Organic field effect transistor and method for producing the same
INVENTOR(S): Miyazaki, Hajime; Miura, Daisuke; Nakayama, Tomonari; Uno, Hidemitsu; Ono, Noboru
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004079834	A1	20040916	WO 2004-JP2449 <--	20040227
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004266157	A	20040924	JP 2003-56144 <--	20030303
US 2006081880	A1	20060420	US 2005-542807 <--	20050720
PRIORITY APPLN. INFO.:			JP 2003-56144 A <--	20030303
			WO 2004-JP2449 W	20040227

OTHER SOURCE(S): MARPAT 141:287235
ED Entered STN: 16 Sep 2004
GI



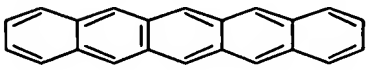
I

AB There is provided a method for producing a field effect transistor with a high field-effect mobility using a simple method for forming an organic semiconductor **layer**. A method for producing an organic field effect transistor comprising an organic semiconductor **layer** , comprising a step of forming the organic semiconductor **layer** by the photodecompn. of a bicyclic compound containing in a mol. thereof at least one bicyclic ring represented by formula I: wherein R1 and R3 each denotes a group for forming an aromatic ring or a heteroarom. ring which may have a substituent, together with a group to be bonded to R1 or R3; R2 and R4 each denotes a H atom, an alkyl group, an alkoxy group, an ester group or a Ph group; and X is a leaving group which denotes carbonyl group or -N =.

IT **135-48-8P**, Pentacene
(organic FET from)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-30

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 22

IT **Field effect transistors**
Photolysis
Semiconductor device fabrication
(fabrication of organic FETs by photolysis of synthesized bicyclo compound)

IT **Semiconductor films**
(organic; fabrication of organic FETs by photolysis of synthesized bicyclo compound)

IT **135-48-8P**, Pentacene
(organic FET from)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 25 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:728194 HCAPLUS Full-text

DOCUMENT NUMBER: 141:404182

TITLE: Persistent photoexcited conducting states in functionalized pentacene

AUTHOR(S): Brooks, J. S.; Tokumoto, T.; Choi, E.-S.; Graf,

D.; Biskup, N.; Eaton, D. L.; Anthony, J. E.; Odom, S. A.

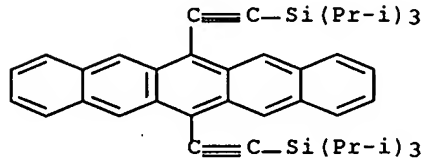
CORPORATE SOURCE: NHMFL and Physics Department, Tallahassee, Florida State University, FL, 32310, USA

SOURCE: Journal of Applied Physics (2004), 96(6), 3312-3318
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 07 Sep 2004

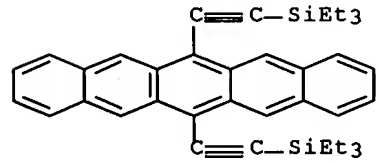
AB The authors report a study of long-lived photoexcited states in single crystals of functionalized forms of pentacene: the 6,13-bis(triisopropylsilylethynyl)pentacene and the 6,13-bis(triethylsilylethynyl)pentacene. These materials are organic semiconductors with band gaps in the range ≈1 eV. The relaxation rate of these states is thermally activated, as determined from time-and temperature-dependent measurements of the photocond. after illumination, and these states can be produced in a stable population at temps. <150 K. Consequently, after the low-temperature illumination, thermally stimulated current (TSC) is observed in the dark current with an increasing temperature Anal. of the TSC signal allows estimation of energies associated with the excited states. Possible mechanisms for the current associated with the photoexcited states are discussed, and preliminary iodine-doped studies of the material are also presented.

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
398128-81-9, 6,13-Bis(triethylsilylethynyl)pentacene
(persistent photoexcited conducting states in functionalized pentacene derivs.)

RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 398128-81-9 HCAPLUS
CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



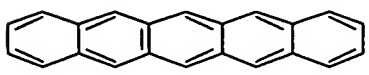
CC 76-5 (**Electric** Phenomena)

IT **373596-08-8**, 6,13-Bis(triisopropylsilylethynyl)pentacene
398128-81-9, 6,13-Bis(triethylsilylethynyl)pentacene
(persistent photoexcited conducting states in functionalized pentacene derivs.)
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 26 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:473184 HCAPLUS Full-text
DOCUMENT NUMBER: 141:44854
TITLE: Use of energy source to convert precursors into patterned semiconductors
INVENTOR(S): Afzali-Ardakani, Ali; Hamann, Hendrik F.; Lacey, James A.; Medeiros, David R.; Chaudhari, Praveen; Von Gutfeld, Robert J.
PATENT ASSIGNEE(S): International Business Machines Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 17 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004110093	A1	20040610	US 2002-314607 <--	20021209
US 7176484	B2	20070213		
PRIORITY APPLN. INFO.:			US 2002-314607 <--	20021209

OTHER SOURCE(S): MARPAT 141:44854
ED Entered STN: 11 Jun 2004
AB The present invention provides a substrate having a patterned small mol. organic semiconductor layer. The substrate with the patterned small mol. organic semiconductor layer is prepared by exposing a region of a substrate having a film of a precursor of a small organic mol. to energy from an energy source to convert the film of a precursor of a small organic mol. to a patterned small mol. organic semiconductor layer. The object of the present invention is to overcome the problems of the prior art by providing a method and system for producing a maskless patterned small mol. organic semiconductor layer on a substrate from a precursor of the small mol. organic semiconductor. The present invention provides a method of producing a substrate with a patterned small mol. organic semiconductor layer from a precursor with dimensions as small as one micron in width. These large crystallite semiconductor layers have relatively large mobilities, and the resulting semiconducting patterning capability has applications in photonic and microelectronic devices such as organic photodiodes and organic **light emitting** diodes.
IT **135-48-8**, Pentacene
(use of energy source to convert precursors into patterned semiconductors)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



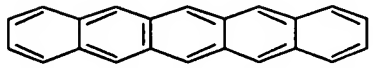
IC ICM G03C005-56
ICS G03F007-09
INCL 430311000; 430271100; 430273100; 430302000; 430434000; 430484000; 430944000; 430945000
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
IT **Electroluminescent devices**
(displays; use of energy source to convert precursors into patterned semiconductors)
IT **Luminescent** screens
(electroluminescent; use of energy source to convert precursors into patterned semiconductors)
IT **Field effect transistors**
Lithography
(use of energy source to convert precursors into patterned semiconductors)
IT **135-48-8**, Pentacene
(use of energy source to convert precursors into patterned semiconductors)
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 27 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:472943 HCAPLUS Full-text
DOCUMENT NUMBER: 141:32323
TITLE: System and method of transfer printing an organic semiconductor
INVENTOR(S): Afzali-Ardakani, Ali; Hamann, Hendrik F.; Chaudhari, Praveen; Von Gutfeld, Robert J.
PATENT ASSIGNEE(S): International Business Machines Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 23 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent.
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004108047	A1	20040610	US 2002-314632 <--	20021209
US 6918982	B2	20050719		
US 2005081984	A1	20050421	US 2004-959938 <--	20041006
PRIORITY APPLN. INFO.:			US 2002-314632 <--	A3 20021209

ED Entered STN: 11 Jun 2004
AB The present invention provides a substrate having thereon a patterned small mol. organic semiconductor layer. The present invention also provides a method and a system for producing a substrate having thereon a patterned small mol. organic semiconductor layer. The substrate having thereon a patterned small mol. organic semiconductor layer is produced by exposing a donor substrate having thereon a small mol. organic semiconductor layer to energy to cause the thermal transfer of a small organic mol. onto an acceptor substrate.
IT **135-48-8**, Pentacene

(transfer printing of organic semiconductor film on substrate)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)

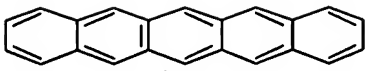


IC ICM B44C001-165
INCL 156230000; 156540000; 427146000; 428914000
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 48, 66, 74
IT **Semiconductor films**
(organic; transfer printing of organic semiconductor film on substrate)
IT **Electroluminescent devices**
Field effect transistors
(transfer printing of organic semiconductor film on substrate for)
IT **135-48-8**, Pentacene
(transfer printing of organic semiconductor film on substrate)
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 28 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:412310 HCAPLUS Full-text
DOCUMENT NUMBER: 140:416160
TITLE: Organic thin **film** transistor
INVENTOR(S): Hirai, Katsura
PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004146575	A	20040520	JP 2002-309483 <--	20021024
PRIORITY APPLN. INFO.:			JP 2002-309483 <--	20021024

ED Entered STN: 21 May 2004
AB An organic thin **film** transistor comprises an organic semiconductor **layer** prepared by a photothermal method for heat treating an organic precursor. Specifically, the organic semiconductor **layer** may comprise pentacene.
IT **135-48-8**, Pentacene
(organic thin **film** transistor fabricated by photothermal heat treatment for forming semiconductor **layer**)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



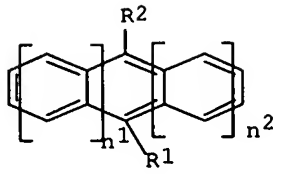
IC ICM H01L029-786
ICS H01L051-00
CC 76-3 (**Electric** Phenomena)
ST org TFT semiconductor **film** photothermal heat treatment
IT **Semiconductor films**
(organic thin **film** transistor fabricated by photothermal heat treatment for forming semiconductor **layer**)
IT Carbon black, uses
(organic thin **film** transistor fabricated by photothermal heat treatment for forming semiconductor **layer**)
IT Heat treatment
(photothermal; organic thin **film** transistor fabricated by photothermal heat treatment for forming semiconductor **layer**)
IT **135-48-8**, Pentacene
(organic thin **film** transistor fabricated by photothermal heat treatment for forming semiconductor **layer**)
IT 23178-67-8 108961-97-3 239089-14-6
(organic thin **film** transistor fabricated by photothermal heat treatment for forming semiconductor **layer**)

L63 ANSWER 29 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:287046 HCAPLUS Full-text
DOCUMENT NUMBER: 140:313310
TITLE: **Organic semiconductor** **film** formation of polynuclear benzenoid cycloaddition products for manufacture of **semiconductor** devices
INVENTOR(S): Okuyama, Tomoyuki
PATENT ASSIGNEE(S): Seiko Epson Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004107216	A	20040408	JP 2002-268614 <--	20020913
TW 230478	B	20050401	TW 2003-92122388 <--	20030814
KR 2004030281	A	20040409	KR 2003-60111 <--	20030829
CN 1494171	A	20040505	CN 2003-158133 <--	20030912
US 2004087676	A1	20040506	US 2003-660554 <--	20030912
PRIORITY APPLN. INFO.:			JP 2002-268614 A <--	20020913

OTHER SOURCE(S): MARPAT 140:313310
ED Entered STN: 08 Apr 2004

GI



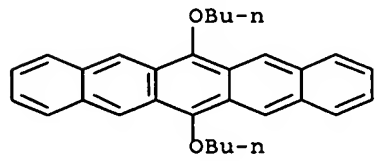
I

AB The **films** are formed by intermol. cycloaddn. of I with II [R1-R4 = groups having the number of atoms 1-18 and ≥1 atoms or groups chosen from H, halo, alkane, alkene, etc.; n1-n4 ≥0; (n1 + n2) and/or (n3 + n4) ≥2] or intramol. cycloaddn. of III [X, Y = groups having the number of atoms 2-18 and ≥1 atoms or groups chosen from H, halo, alkane, alkene, etc.; n11-n14 ≥0; (n11 + n12) and/or (n13 + n14) ≥2] by heat and/or light, applying (e.g., jet-printing) solns. of the cycloaddn. products IV or V, and removing **solvents** from the liquid **layers** by heat and/or light. The cycloaddn. products show good solubility in organic **solvents** without addnl. compds., resulting in high-purity **semiconductor films**.

IT **676464-25-8**
(**organic semiconductor film** formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of **semiconductor** devices)

RN 676464-25-8 HCAPLUS

CN Pentacene, 6,13-dibutoxy- (9CI) (CA INDEX NAME)



IC ICM C07C041-30
ICS C07C043-188; C07D493-04; H01L051-00

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25, 28

ST polynuclear benzenoid cycloaddn **semiconductor film** formation; **semiconductor** device polynuclear benzenoid cycloaddn; jet printing polynuclear benzenoid cycloaddn **semiconductor film**; butoxypentathene intermol cycloaddn **semiconductor film** formation

IT Ink-jet printing
Semiconductor devices
Semiconductor films
Semiconductor materials
(**organic semiconductor film** formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of **semiconductor** devices)

IT 676464-26-9P 676464-28-1P

(**organic semiconductor film** formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of **semiconductor** devices)

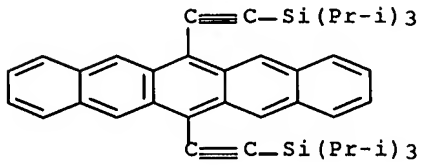
IT **676464-25-8** 676464-27-0
(**organic semiconductor film** formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of **semiconductor** devices)

IT 108-88-3, Toluene, uses
(**solvents; organic semiconductor film** formation of polynuclear benzenoid cycloaddn. products by liquid process for manufacture of **semiconductor** devices)

L63 ANSWER 30 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:113531 HCAPLUS Full-text
DOCUMENT NUMBER: 140:173369
TITLE: Design of a semiconductor device employing substituted pentacene compounds
INVENTOR(S): Anthony, John E.; Eaton, David L.; Parkin, Sean
PATENT ASSIGNEE(S): University of Kentucky Research Foundation, USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

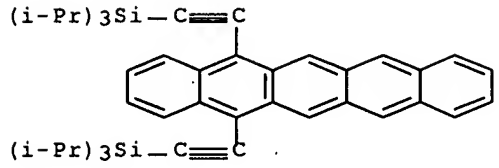
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 6690029	B1	20040210	US 2002-143405		20020510
PRIORITY APPLN. INFO.:			US 2001-314968P	P	20010824

OTHER SOURCE(S): MARPAT 140:173369
ED Entered STN: 12 Feb 2004
AB The invention relates to the design of a semiconductor device employing substituted pentacene compds., where the pentacenes are 6,13- or 5,14-substituted with acetylenic derivs.
IT **373596-08-8**, Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[tris(1-methylethyl)- **373596-09-9** **398128-81-9**, Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[triethyl-
(design of semiconductor device employing substituted pentacene compds.)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)

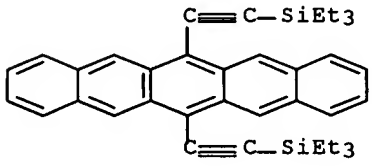


RN 373596-09-9 HCAPLUS
CN Silane, (5,14-pentacenediyldi-2,1-ethynediyl)bis[tris(1-methylethyl)-

(9CI) (CA INDEX NAME)



RN 398128-81-9 HCAPLUS
CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



IC ICM H01L051-00
INCL 257040000; 257289000
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25
IT **373596-08-8**, Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[tris(1-methylethyl)- **373596-09-9** **398128-81-9**, Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[triethyl- 398128-87-5 427879-51-4D, derivs. 655245-04-8D, derivs.
(design of semiconductor device employing substituted pentacene compds.)
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 31 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:77186 HCAPLUS Full-text
DOCUMENT NUMBER: 140:137573
TITLE: Organic transistor, organic electronic device, and fabrication of organic electronic device
INVENTOR(S): Fujisaki, Yoshiei; Iino, Yoshimi; Kikuchi, Hiroshi
PATENT ASSIGNEE(S): Japan Broadcasting Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004031801	A	20040129	JP 2002-188190	20020627

PRIORITY APPLN. INFO.: JP 2002-188190 20020627

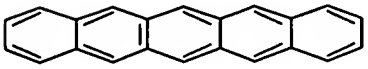
ED Entered STN: 30 Jan 2004

AB An organic electronic device comprises a substrate having ≥ 2 electrodes, ≥ 1 insulator **film** on the electrode(s), ≥ 1 first organic **film** having a high coating property on the insulator **film**(s), ≥ 1 s organic **film** having a hydrophobic group on the first organic **film**(s), and ≥ 1 organic semiconductor **film** on the second organic **film**(s). The electronic device has an insulator **film** having a superior insulating property and an organic semiconductor **film** promoting the growth of an organic mol. crystal. An organic transistor is also described, whose gate insulator **film** comprises an oxide, nitride, nitride oxide, fluoride, or diamondlike carbon.

IT **135-48-8**, Pentacene
(insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L029-786
ICS H01L021-312; H01L021-316; H01L051-00

CC 76-3 (**Electric** Phenomena)

ST org transistor electronic device fabrication insulator semiconductor **film**

IT Surfactants
(fluorosurfactants; insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

IT Dielectric **films**
Electric apparatus
Electronic device fabrication
Semiconductor films
Transistors
(insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

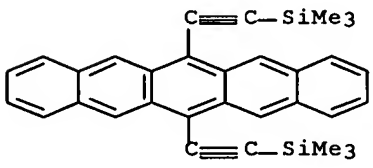
IT Fluorides, uses
Nitrides
Oxides (inorganic), uses
Oxynitrides
Polycarbonates, uses
(insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

IT 7440-44-0, Carbon, uses
(diamondlike; insulator and semiconductor **films** of organic transistor and organic electronic device, and fabrication of organic electronic device)

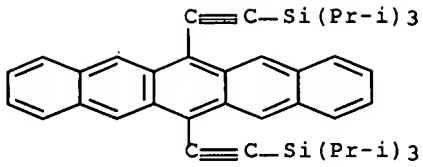
IT **135-48-8**, Pentacene 1314-61-0, Tantalum oxide 7440-25-7, Tantalum, uses 9003-20-7, Poly(vinyl acetate) 12033-89-5, Silicon nitride, uses
(insulator and semiconductor **films** of organic transistor and

organic electronic device, and fabrication of organic electronic device)

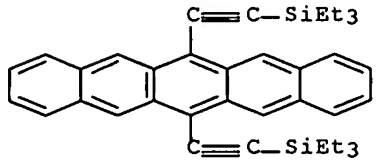
L63 ANSWER 32 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:1013507 HCAPLUS Full-text
DOCUMENT NUMBER: 140:190687
TITLE: Functionalized pentacene active layer organic thin-film transistors
AUTHOR(S): Sheraw, Chris D.; Jackson, Thomas N.; Eaton, Dave L.; Anthony, John E.
CORPORATE SOURCE: Center for Thin Film Devices and Electronic Materials and Processing Research Laboratory, Department of Electrical Engineering, The Pennsylvania State University, University Park, PA, 16801, USA
SOURCE: Advanced Materials (Weinheim, Germany) (2003), 15(23), 2009-2011
CODEN: ADVMEW; ISSN: 0935-9648
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 31 Dec 2003
AB In order to improve pentacene-based organic thin film transition, the pentacene mol. is modified to form mol. crystals with increased π-orbital overlap. The approach reported is to add bulky functional groups at the 6,13-positions of the pentacene mol. to discourage edge-to-face mol. interaction. In addition to providing modified mol. ordering, the functional groups may also improve the solubility of the material in organic solvents, allowing solution-cast devices.
IT **317809-68-0**, 6,13-Bis((trimethylsilyl)ethynyl)pentacene
373596-08-8, 6,13-Bis((triisopropylsilyl)ethynyl)pentacene
398128-81-9, 6,13-Bis((triethylsilyl)ethynyl)pentacene
(functionalized pentacene active layer for improved organic thin-film transistors)
RN 317809-68-0 HCAPLUS
CN Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 398128-81-9 HCAPLUS
CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
IT 135-48-8, Pentacene **317809-68-0**, 6,13-Bis((trimethylsilyl)ethynyl)pentacene **373596-08-8**, 6,13-Bis((triisopropylsilyl)ethynyl)pentacene 398128-75-1 **398128-81-9**, 6,13-Bis((triethylsilyl)ethynyl)pentacene 658059-34-8
(functionalized pentacene active layer for improved organic thin-film transistors)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 33 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:976855 HCAPLUS Full-text
DOCUMENT NUMBER: 140:416081
TITLE: Organic **film** FET and its manufacture
INVENTOR(S): Dong, Guifang; Hu, Yuanchuan; Wang, Liduo; Qiu, Yong; Gao, Yudi
PATENT ASSIGNEE(S): Tsinghua University, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 14 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1348222	A	20020508	CN 2001-134676 <--	20011109
PRIORITY APPLN. INFO.:			CN 2001-134676 <--	20011109

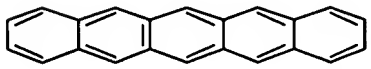
ED Entered STN: 15 Dec 2003

AB The FET consists of a first electrode close to the substrate, a second electrode, and a third electrode away from the substrate with an organic semiconductor **layer** and an insulation **layer** sandwiched between the first electrode and the third electrode and between the second electrode and the third electrode. The first electrode and the second electrode are parallel tripes in a comb-shaped clutch arrangement on a substrate. The insulation **layer** is made of polytetrafluoroethylene or polyimide, the first electrode and the second electrode are made of ITO, ZnO, Sn Zn oxide, or a metal having high work function such as Au, Cu, or Ag (preferably, ITO), the third electrode is made of a metal having high work function (Au, or Ag), and the organic semiconductor **layer** is made of phthalocyanine-type metallorg. compds., thiophene oligomer, or pentacene. The FET is manufactured by forming (e.g., by vapor deposition) a metal **layer** on an ITO glass substrate, forming the first electrode and the second electrode on the substrate with lithog. etching, forming an organic semiconductor **layer** on the electrode, forming an insulation **layer** on the semiconductor **layer**, and forming the third electrode on the insulation **layer**.

IT **135-48-8**, Pentacene
(in fabrication of organic FET)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40; H01L051-30

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 48

ST FET org **film** manuf

IT Dielectric **films**
Etching
Lithography
Semiconductor films
Vapor deposition process
(in fabrication of organic FET)

IT **135-48-8**, Pentacene 147-14-8, Copper phthalocyanine 574-93-6D, Phthalocyanine, derivs., complexes 1314-13-2, Zinc oxide, processes 7440-22-4, Silver, processes 7440-50-8, Copper, processes 7440-57-5, Gold, processes 9002-84-0, Teflon 39467-17-9, Tin zinc oxide 50926-11-9, ITO
(in fabrication of organic FET)

L63 ANSWER 34 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:939726 HCAPLUS Full-text

DOCUMENT NUMBER: 141:97163

TITLE: Synthesis, properties, and device applications of functionalized acenes

AUTHOR(S): Anthony, John E.; Brooks, James S.; Eaton, David L.; Matson, Jason R.; Parkin, Sean R.

CORPORATE SOURCE: Department of Chemistry, Univ. of Kentucky, Lexington, KY, 40506, USA

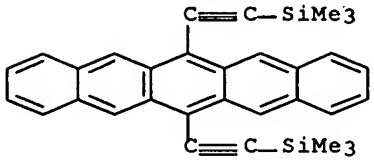
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2003), 5217(Organic Field Effect Transistors II), 124-132

CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Dec 2003

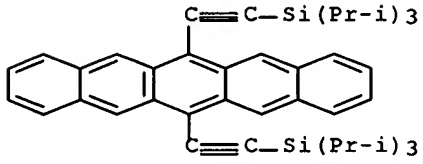
AB Face-to-face interactions of aromatic mols. in the crystalline state may prove to be the most relevant for materials destined to be used in thin-film transistor or photovoltaic applications. We have designed functionalized pentacene derivs. that maximize these interactions in the solid state. We present here a description of a number of pi-stacked crystalline motifs that we can access, along with a discussion of the dependence of resistivity and band gap on the nature and amount of pi-overlap in the crystal.

IT **317809-68-0 373596-08-8 398128-81-9**
(crystal packing, electronic, and elec. properties of functionalized acenes)

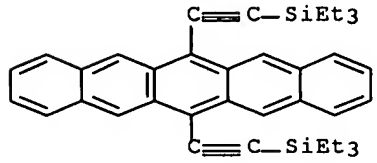
RN 317809-68-0 HCAPLUS
CN Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)

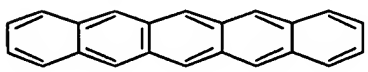


RN 398128-81-9 HCAPLUS
CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



CC 76-1 (**Electric** Phenomena)
IT **317809-68-0 373596-08-8 398128-81-9**
398128-84-2
(crystal packing, electronic, and elec. properties of functionalized acenes)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 35 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:939711 HCAPLUS Full-text
DOCUMENT NUMBER: 141:131874
TITLE: Poly-p-xylylene derivatives as non-solution processible gate dielectric materials for organic field effect transistor
AUTHOR(S): Yasuda, Takeshi; Fujita, Katsuhiko; Tsutsui, Tetsuo
CORPORATE SOURCE: Department of Applied Science for Electronics and Materials, Graduate School of Engineering, Kyushu Univ., Fukuoka, 816-8580, Japan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (**2003**), 5217(Organic Field Effect Transistors II), 202-209
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Dec 2003
AB A flexible insulator **film** would be one of the most important elements of flexible organic field-effect transistors (OFETs). It should be produced from a soft organic material rather than a stiff inorg. material. Many polymeric materials were spin-coated from the solution and the resulted **films** have to be baked or cured to obtain a good insulator. Since those procedures impose a restriction on the OFETs, a fabrication process without using a **solvent** was desired. Poly-p-xylylene derivs. were made into an insulator **film** by a non-**solvent** procedure, CVD (CVD). The insulator **film** has addnl. advantages, pinhole-free, resistance to many **solvents** and no thermal stress to a material beneath. We have fabricated and characterized OFETs with the inverted staggered geometry, substrate/gate electrode/poly-p-xylylene derivs./**organic semiconductor**/source-drain electrodes. The CVD enables to form an insulator **film** even above the **organic semiconductor**. We fabricated the staggered type configuration substrate/source-drain electrodes/ **organic semiconductor**/poly-chloro-p-xylylene/gate electrode. The device performance of a staggered type transistor indicated that the mol. arrangement of **organic semiconductor** at the insulator interface is more dominant than the damage or chemical deterioration due to the attack of the radicals during the CVD procedure.
IT **135-48-8**, Pentacene
(poly-p-xylylene derivs. as non-solution processible gate dielec. materials for organic FET)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38
IT **Field effect transistors**
(organic; poly-p-xylylene derivs. as non-solution processible gate dielec. materials for organic FET)
IT Dielectric **films**
(poly-p-xylylene derivs. as non-solution processible gate dielec. materials for organic FET)
IT 81-33-4, PTCDI **135-48-8**, Pentacene 147-14-8, Copper phthalocyanine 14916-87-1 138184-36-8, MEH-PPV
(poly-p-xylylene derivs. as non-solution processible gate dielec. materials for organic FET)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 36 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:892188 HCAPLUS Full-text
DOCUMENT NUMBER: 139:371662
TITLE: Organic **light emitting** devices based on the formation of an electron-hole plasma
INVENTOR(S): Holmes, Russell James Delmar; Baldo, Marc A.; Forrest, Stephen R.
PATENT ASSIGNEE(S): The Trustees of Princeton University, USA
SOURCE: U.S. Pat. Appl. Publ., 34 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003209972	A1	20031113	US 2002-143354 <--	20020510
US 6970490	B2	20051129		
WO 2004001796	A2	20031231	WO 2003-US14060 <--	20030506
WO 2004001796	A3	20040715		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003269821	A1	20040106	AU 2003-269821 <--	20030506

PRIORITY APPLN. INFO.:
US 2002-143354 A 20020510 <--
WO 2003-US14060 W 20030506 <--

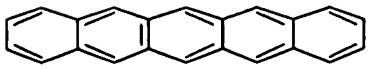
ED Entered STN: 14 Nov 2003

AB When the d. of excitons in an organic single crystal (including the linear acenes, polyacenes, and thiophenes) approaches the d. of mol. sites, an electron-hole plasma may form in the material altering the overall excitonic character of the system. The formation of the electron-hole plasma arises of the screening of Coulomb interactions within individual excitons by injected free carriers. The large exciton densities required to accomplish this screening process can only be realized when excitons collect near dislocations, defects, traps, or are confined in heterostructures. Such confinement and subsequently large exciton densities allows for the observation of phys. phenomena not generally accessible in an organic material. The formation of an electron-hole plasma in an organic single crystal can allow for the observation of field-effect transistor action and elec.-pumped lasing. Amorphous organic materials and polymeric organic materials can also used to sustain an electron-hole plasma and demonstrate similar phenomena as well.

IT **135-48-8**, Pentacene
(in organic **LEDs** based on formation of electron-hole plasma)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H05B033-00

INCL 313504000; X31-350.6

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

ST org **light emitting** electron hole plasma

IT Conducting polymers
(in organic **LEDs** based on formation of electron-hole plasma)

IT Fluoropolymers, uses
Polyacenes
Porphyrins
(in organic **LEDs** based on formation of electron-hole plasma)

IT Electron-hole plasma
(organic **LEDs** based on formation of)

IT **Field effect transistors**
Laser radiation
(organic **LEDs** based on formation of electron-hole plasma for)

IT **Electroluminescent devices**
(organic; based on formation of electron-hole plasma)

IT 25067-59-8, PVK
(PVK; in organic **LEDs** based on formation of electron-hole plasma)

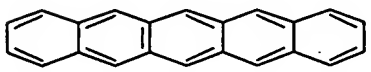
IT 92-24-0, Tetracene 110-02-1D, Thiophene, derivs. 120-12-7, Anthracene, uses **135-48-8**, Pentacene 574-93-6, Phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7429-90-5, Aluminum, uses 7440-06-4, Platinum, uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-57-5, Gold, uses 7631-86-9, Silica, uses 7789-24-4, Lithium fluoride, uses 9002-84-0, PTFE 12033-89-5, Silicon nitride, uses 13463-67-7, Titania, uses 37271-44-6 50926-11-9, ITO 58328-31-7, CBP 96638-49-2, Poly(phenylene vinylene) 138184-36-8, MEH-PPV

(in organic **LEDs** based on formation of electron-hole plasma)
REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 37 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:774027 HCAPLUS Full-text
DOCUMENT NUMBER: 139:300175
TITLE: Side-gate-type organic FETs and organic EL devices
INVENTOR(S): Yahiro, Masayuki; Ishida, Kenji; Matsushige, Kazumi
PATENT ASSIGNEE(S): Kansai Technology Licensing Organization Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003282884	A	20031003	JP 2002-86669 <--	20020326
PRIORITY APPLN. INFO.:			JP 2002-86669 <--	20020326

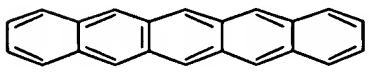
ED Entered STN: 03 Oct 2003
AB The FETs contain (a) gate electrodes on substrates, (b) organic semiconductor carrier transport layers, and (c) source and drain electrodes above and under the transport layers. Organic **EL** devices contain (a) ≥2 control electrodes on substrates, (b) **luminescent organic** semiconductor layers, (c) pairs of implantation electrode layers set above and under the semiconductor layers, and (d) **light-emittance** control circuits which apply opposite-polarity control voltage on the ≥2 electrodes.
IT **135-48-8**, Pentacene
(carrier transport layers for side-gate-type organic FETs and organic EL devices)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



IC ICM H01L029-786
ICS H01L051-00; H05B033-14
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 74
IT **Electroluminescent devices**
Field effect transistors
(organic; carrier transport layers for side-gate-type organic FETs and organic EL devices)
IT 109-27-3, Tetracene 120-12-7, Anthracene, uses **135-48-8**, Pentacene 147-14-8, Copper(II) phthalocyanine 5521-31-3, N,N'-Dimethylperylene-3,4,9,10 tetracarboxylic acid diimide

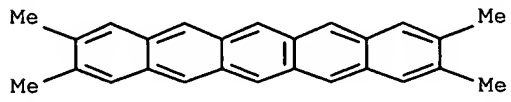
14916-87-1 88493-55-4, α-Sexithiophene
(carrier transport layers for side-gate-type organic FETs and organic EL devices)

L63 ANSWER 38 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:773485 HCAPLUS Full-text
DOCUMENT NUMBER: 140:312924
TITLE: Analysis and fabrication of **light-emitting** field-effect transistor based on pentacene
AUTHOR(S): Guo, Shu-xu; Liu, Jian-jun; Wang, Wei; Zhang, Su-mei; Shi, Jia-wei; Liu, Ming-da
CORPORATE SOURCE: State Key lab. Integrated Optoelectronics, Jilin Univ., Changchun, 130023, Peop. Rep. China
SOURCE: Faguang Xuebao (**2003**), 24(4), 417-420
CODEN: FAXUEW; ISSN: 1000-7032
PUBLISHER: Kexue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 03 Oct 2003
AB Organic thin-film transistors and electronics are of interest for low-cost high-information content displays, especially on flexible substrates, and for other large-area electronic applications. Ambipolar field-effect transistors, which operate as either n- or p-channel devices, depending on the polarity of the gate bias, can operate in a mixed or bipolar mode. They have been realized with amorphous silicon, organic semiconductor heterostructures, and organic single crystals. The authors report here on the structure and operating characteristics of an ambipolar organic **light- emitting** field-effect transistor based on a single crystal of pentacene. The electrons and holes are injected equally from the source and drain, resp., and the drain current can be controlled by the adjusting gate- and drain-source voltages. Excitons are generated, leading to radiative recombination. The authors grow the single crystal thin-film based on pentacene by phys. vapor deposition and fabricated organic field-effect transistor using it. The thickness of the film is about some few micrometer and the length is about some few millimeter. The proportion between the length and thickness is about 1000. By using polyimide as bond, the organic thin-film was tiled on the glass substrate. By a magnetic-controlled sputtering method, choosing appropriate conditions of sputtering, Al as source-drain electrode, Al2O3 as insulation layer, and Al as gate electrode were obtained. Then, the authors measured the I-V characteristics and discuss the **luminescence** principle about **organic** field-effect transistors. The most important two factors of the success are the use of an organic single crystal with high mobility and the employment of a field-effect structure to control the injection for the ambipolar organic **light emitting** field-effect transistor.
IT **135-48-8**, Pentacene
(anal. and fabrication of **light-emitting** field-effect transistor based on pentacene)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)

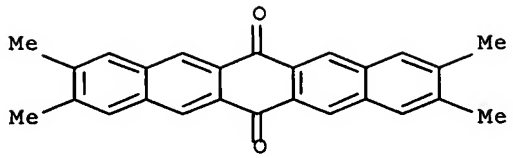


CC 76-5 (Electric Phenomena)
ST pentacene **light emitting** FET transistor
IT **Field effect transistors**
(**light-emitting**; anal. and fabrication of **light-emitting** field-effect transistor based on pentacene)
IT **135-48-8**, Pentacene
(anal. and fabrication of **light-emitting** field-effect transistor based on pentacene)

L63 ANSWER 39 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:566712 HCAPLUS Full-text
DOCUMENT NUMBER: 139:284152
TITLE: Tetramethylpentacene: Remarkable absence of steric effect on field effect mobility
AUTHOR(S): Meng, Hong; Bendikov, Michael; Mitchell, Gregory; Helgeson, Roger; Wudl, Fred; Bao, Zhenan; Siegrist, Theo; Kloc, Christian; Chen, Cheng-Hsuan
CORPORATE SOURCE: Department of Chemistry and Biochemistry and Exotic Materials Institute, University of California, Los Angeles, CA, 90095-1569, USA
SOURCE: Advanced Materials (Weinheim, Germany) (**2003**), 15(13), 1090-1093
CODEN: ADVMEW; ISSN: 0935-9648
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 24 Jul 2003
AB A new pentacene derivative, 2,3,9,10-tetramethyl-pentacene (Me4PENT), has been synthesized, characterized, and tested in a field-effect transistor (FET) device. A bottom-contact-mode FET device fabricated with Me4PENT was shown to exhibit a high charge-transport mobility of 0.31 cm2V-1s-1 when fabricated at a deposition substrate temperature of 85°C.
IT **499138-96-4P**, 2,3,9,10-Tetramethyl-pentacene
(preparation of tetramethylpentacene and absence of steric effect on field effect mobility)
RN 499138-96-4 HCAPLUS
CN Pentacene, 2,3,9,10-tetramethyl- (CA INDEX NAME)



IT **607387-98-4**
(preparation of tetramethylpentacene and absence of steric effect on field effect mobility)
RN 607387-98-4 HCAPLUS
CN 6,13-Pentacenedione, 2,3,9,10-tetramethyl- (9CI) (CA INDEX NAME)



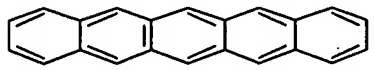
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 65, 75
IT Band gap
Crystal structure-property relationship
Electric current-potential relationship
Electron mobility
Field effect transistors
Fluorescence
HOMO (molecular orbital)
Ionization potential
LUMO (molecular orbital)
(preparation of tetramethylpentacene and absence of steric effect on field effect mobility)
IT **499138-96-4P**, 2,3,9,10-Tetramethyl-pentacene
(preparation of tetramethylpentacene and absence of steric effect on field effect mobility)
IT 1971-69-3, Tris(cyclohexoxide)aluminum **607387-98-4**
(preparation of tetramethylpentacene and absence of steric effect on field effect mobility)
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 40 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:472939 HCAPLUS Full-text
DOCUMENT NUMBER: 139:45745
TITLE: Design of a magnetoresistive element using an organic nonmagnetic layer
INVENTOR(S): Granstrom, Eric L.
PATENT ASSIGNEE(S): Seagate Technology LLC, USA
SOURCE: U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

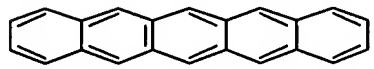
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003112564	A1	20030619	US 2002-306384 <--	20021127
PRIORITY APPLN. INFO.:			US 2001-333624P <--	P 20011127

ED Entered STN: 20 Jun 2003
AB The invention relates to the design of a magnetoresistive element using an organic nonmagnetic layer. A magnetoresistive element has two magnetic layers and a nonmagnetic middle layer having organic mols. disposed between the two magnetic layers. The middle layer is thinner than 5 nm. The magnetoresistive element exhibits a magnetoresistive effect as a function of the relative alignment of magnetizations of the first and the second magnetic layers and is used in a magnetoresistive sensor.

IT **135-48-8**, Pentacene **135-48-8D**, Pentacene, derivs.
(design of a magnetoresistive element using an organic nonmagnetic layer)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



IC ICM G11B005-127
ICS G11B005-33
INCL 360324120; 360324200
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 21, 38, **76**, 78
IT Electrodeposition
Heating
Magnetic films
Magnetic memory devices
Magnetoresistors
Self-assembled monolayers
Semiconductor films
(design of a magnetoresistive element using an organic nonmagnetic layer)
IT 92-24-0, Tetracene 92-24-0D, Tetracene, derivs. 129-00-0, Pyrene, uses 129-00-0D, Pyrene, derivs. **135-48-8**, Pentacene **135-48-8D**, Pentacene, derivs. 191-07-1, Coronene 191-07-1D, Coronene, derivs. 198-55-0, Perylene 198-55-0D, Perylene, derivs. 218-01-9, Chrysene 218-01-9D, Chrysene, derivs.
(design of a magnetoresistive element using an organic nonmagnetic layer)

L63 ANSWER 41 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:377211 HCAPLUS Full-text
DOCUMENT NUMBER: 138:377321
TITLE: Organic thin **film** transistor with siloxane polymer interface
INVENTOR(S): Kelley, Tommie W.; Boardman, Larry D.; Dunbar, Timothy D.; Jones, Todd D.; Muyres, Dawn V.; Pellerite, Mark J.; Smith, Terrance P.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003041186	A2	20030515	WO 2002-US33999 <--	20021023
WO 2003041186	A3	20031120		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003102472	A1	20030605	US 2001-12655 <--	20011105
US 6617609	B2	20030909		
AU 2002361575	A1	20030519	AU 2002-361575 <--	20021023
EP 1442487	A2	20040804	EP 2002-797052 <--	20021023
EP 1442487	B1	20060920		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1582505	A	20050216	CN 2002-822190 <--	20021023
JP 2005509299	T	20050407	JP 2003-543118 <--	20021023
AT 340413	T	20061015	AT 2002-797052 <--	20021023
PRIORITY APPLN. INFO.:			US 2001-12655 A <--	20011105
			WO 2002-US33999 W <--	20021023

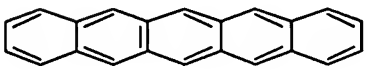
ED Entered STN: 16 May 2003

AB Provided is an organic thin **film** transistor with improved mobility comprising a siloxane polymeric **layer** interposed between a gate dielec. and an organic semiconductor **layer**. An integrated circuit comprising thin **film** transistors and methods of making a thin **film** transistor are also provided. The organic thin **film** transistors of the invention typically exhibit improvement in one or more transistor properties.

IT **135-48-8**, Pentacene
(organic TFT with siloxane polymer interface)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38
IT Coating process
Integrated circuits
Semiconductor films
Thin **film** transistors
(organic TFT with siloxane polymer interface)
IT **135-48-8**, Pentacene 198-55-0, Perylene 574-93-6D, Phthalocyanine, derivs. 9016-00-6, Dimethylsiloxane, SRU 14916-87-1 31900-57-9, Polydimethylsiloxane 88493-55-4, Sexithiophene 156048-34-9, Dimethylsiloxane-diphenylsiloxane copolymer 164662-84-4, Methylphenylsiloxane-diphenylsiloxane copolymer
(organic TFT with siloxane polymer interface)

L63 ANSWER 42 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:377210 HCAPLUS Full-text
DOCUMENT NUMBER: 138:377320
TITLE: Organic thin **film** transistor with polymeric interface
INVENTOR(S): Kelley, Tommie W.; Boardman, Larry D.; Dunbar, Timothy D.; Jones, Todd D.; Muyres, Dawn V.; Pellerite, Mark J.; Smith, Terrance P.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003041185	A2	20030515	WO 2002-US33872 <--	20021023
WO 2003041185	A3	20031106		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003102471	A1	20030605	US 2001-12654 <--	20011105
US 6946676	B2	20050920		
AU 2002337959	A1	20030519	AU 2002-337959 <--	20021023
EP 1442484	A2	20040804	EP 2002-773864 <--	20021023
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005509298	T	20050407	JP 2003-543117 <--	20021023
US 2006011909	A1	20060119	US 2005-227547 <--	20050915
PRIORITY APPLN. INFO.:			US 2001-12654 A	20011105

<--
WO 2002-US33872 W 20021023
<--

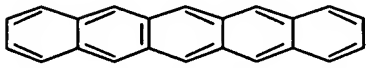
ED Entered STN: 16 May 2003

AB Provided is an organic thin **film** transistor with improved carrier mobility and low cost fabrication comprising a polymeric **layer** interposed between a gate dielec. and an organic semiconductor **layer**. Various homopolymers, copolymers, and functional copolymers are claimed for use in the polymeric **layer**. An integrated circuit comprising a multiplicity of thin **film** transistors and methods of making a thin **film** transistor are also provided. The organic thin **film** transistors of the invention typically exhibit improvement in one or more transistor properties.

IT **135-48-8**, Pentacene **135-48-8D**, Pentacene, derivs.
(organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)

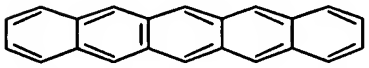
RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-20

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38

IT Polymers, processes
(aromatic; organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)

IT Integrated circuits
Semiconductor films
Thin **film** transistors
(organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)

IT Fullerenes
Polyacenes
(organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)

IT Polymers, properties
(organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)

IT Conducting polymers
(polythiophenes, ooligomers; organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)

IT Coating process
(spin; organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)
IT 74-86-2D, Acetylene, derivs. 13177-38-3, Cyclopentadienone
(organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)
IT 109-27-3, Tetracene 120-12-7, Anthracene, processes **135-48-8**, Pentacene **135-48-8D**, Pentacene, derivs. 198-55-0, Perylene 574-93-6, Phthalocyanine 9003-17-2, Polybutadiene 9003-20-7, Polyvinyl acetate 9003-53-6, Polystyrene 9011-14-7, PMMA 9042-43-7, Polyvinylnaphthalene 14916-87-1 25036-01-5, Polyacenaphthylene 25038-76-0, Polynorbornene 25067-06-5, Poly(1-hexene) 25722-33-2, Parylene 88493-55-4, Sexithiophene 95270-88-5, Polyfluorene
(organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)
IT 26949-20-2P, Styrene-3-methacryloxypropyltrimethoxysilane copolymer 36785-89-4P, Styrene-3-mercaptopropyltrimethoxysilane copolymer 76701-84-3P, Styrene-vinylphosphonic acid copolymer 252338-38-8P, 5-Hexylnorbornene-5-(triethoxysilyl)norbornene copolymer
(organic thin **film** transistor with polymeric interface between gates and organic semiconductor **films**)

L63 ANSWER 43 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:255085 HCAPLUS Full-text
DOCUMENT NUMBER: 138:246983
TITLE: **Organic semiconductor** **film** preparation and use in field effect transistors
INVENTOR(S): Chowdhuri, Abhijit R.; Zhang, Jie; Gamota, Daniel R.
PATENT ASSIGNEE(S): Motorola, Inc., USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6541300	B1	20030401	US 2002-58704 <--	20020128
WO 2003065409	A2	20030807	WO 2002-US41765 <--	20021231
WO 2003065409	A3	20031016		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1472718	A2	20041103	EP 2002-794455 <--	20021231
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				

CN 1618135	A	20050518	CN 2002-827690 <--	20021231
PRIORITY APPLN. INFO.:			US 2002-58704 <--	A 20020128
			WO 2002-US41765 <--	W 20021231

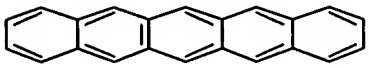
ED Entered STN: 03 Apr 2003

AB The present invention is directed to **semiconductor films** and a process for their preparation The **semiconductor organic** material is blended with a multicomponent **solvent** blend having a combined polarity within a defined range. The blend of **semiconductor organic** material and multicomponent **solvent** blend is effective for providing a highly ordered **semiconductor film** having an improved mobility and for providing a device having improved on/off ratio characteristics. The blend is deposited on a receiving material to provide a continuous highly ordered **film** having greater periodicity than **films** produced with a single **solvent/semiconducting** material blend under similar processing conditions.

IT **135-48-8**, Pentacene
(**organic semiconductor** material; **organic semiconductor film** preparation and use in field effect transistors)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L051-40

INCL 438099000; X25-7 4.0

CC 76-3 (**Electric** Phenomena)

ST **org semiconductor film** field effect transistor

IT Imides
(diimides, tetracarboxylic acids, **organic semiconductor** material; **organic semiconductor film** preparation and use in field effect transistors)

IT **Semiconductor** device fabrication
Semiconductor films
(**organic semiconductor film** preparation and use in field effect transistors)

IT Polyanilines
(**organic semiconductor** material; **organic semiconductor film** preparation and use in field effect transistors)

IT **Field effect transistors**
(**organic**; **organic semiconductor film** preparation and use in field effect transistors)

IT **Conducting** polymers
(polythiophenes, **organic semiconductor** material; **organic semiconductor film** preparation and use in field effect transistors)

IT Carboxylic acids, uses
(tetra, diimide-, **organic semiconductor** material; **organic semiconductor film** preparation and use

in field effect transistors)

IT 75-20-7, Calcium carbide 7631-99-4, Sodium nitrate, uses 7647-14-5, Sodium chloride, uses 7778-54-3, Calcium hypochlorite 12712-38-8, Potassium borate 13840-56-7, Sodium borate 16893-85-9, Sodium fluorosilicate
(multicomponent **solvent** blend containing; **organic semiconductor film** preparation and use in field effect transistors)

IT 110134-47-9, Poly (3-hexylthiophene-2,5-diyl)
(**organic film solvent; organic semiconductor film** preparation and use in field effect transistors)

IT 56-23-5, Carbontetrachloride, processes 64-17-5, Ethanol, processes 67-56-1, Methanol, processes 67-63-0, 2-Propanol, processes 67-64-1, Acetone, processes 67-66-3, Chloroform, processes 71-23-8, 1-Propanol, processes 71-36-3, 1-Butanol, processes 71-43-2, Benzene, processes 75-09-2, Methylene chloride, processes 75-65-0, t-Butanol, processes 78-93-3, 2-Butanone, processes 108-88-3, Toluene, processes 109-99-9, Tetrahydrofuran, processes 1330-20-7, Xylene, processes
(**organic film solvent; organic semiconductor film** preparation and use in field effect transistors)

IT 91-20-3D, Naphthalene, dithiophene derivs. 110-02-1D, Thiophene, anthracene derivs. 110-02-1D, Thiophene, naphthalene derivs. 120-12-7D, Anthracene, 2,3,6,7-Tetracarboxylic acid diimide derivs. 120-12-7D, Anthracene, dithiophene derivs. **135-48-8**, Pentacene 574-93-6D, Phthalocyanine, derivs. 66280-99-7, Poly(thienylenevinylene) 96638-49-2, Poly(phenylenevinylene)
(**organic semiconductor** material; **organic semiconductor film** preparation and use in field effect transistors)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 44 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:154660 HCAPLUS Full-text
DOCUMENT NUMBER: 138:197055
TITLE: Organic semiconductor components with pentacene-coated transistor films
INVENTOR(S): Minakata, Takashi
PATENT ASSIGNEE(S): Asahi Kasei Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 67 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

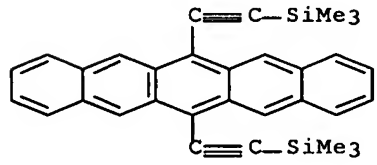
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003016599	A1	20030227	WO 2002-JP8070	20020807

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,

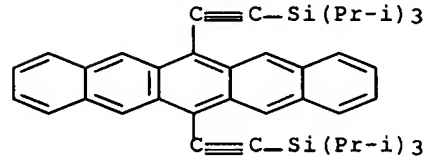
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002327354	A1	20030303	AU 2002-327354	20020807
EP 1416069	A1	20040506	EP 2002-760569	20020807
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1541288	A	20041027	CN 2002-815611	20020807
US 2005258417	A1	20051124	US 2004-486276	20040209
US 7061010	B2	20060613		
PRIORITY APPLN. INFO.:			JP 2001-242808 A	20010809
			WO 2002-JP8070 W	20020807

OTHER SOURCE(S): MARPAT 138:197055
ED Entered STN: 28 Feb 2003
AB An organic semiconductor thin film suitably employed in electronics, photonics, or bioelectronics and a method for forming the thin films thereof. An organic semiconductor solution as the material in formation of the organic semiconductor thin film, and an organic semiconductor component employing the organic semiconductor thin film are also provided. The transistor is obtained by forming a gate electrode, an insulator layer, a source electrode, and drain electrodes sequentially on a glass substrate and then applying o-dichlorobenzene solution of pentacene (0.05% by mass) and drying thereby forming an organic semiconductor thin film. Since the organic semiconductor thin film can be formed easily at a low cost and has substantially no defect, a transistor having excellent electronic characteristics can be provided.
IT **317809-68-0P**, 6,13-Bis(trimethylsilylethynyl)pentacene
373596-08-8P, 6,13-Bis(triisopropylsilylethynyl)pentacene
(semiconductor thin film; organic semiconductor components prepared by coating with pentacene-coated transistor films)
RN 317809-68-0 HCAPLUS
CN Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)

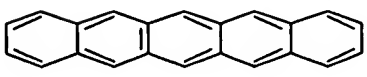


RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



IC ICM C30B029-54
ICS C30B007-06; H01L029-786; H01L051-00
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25
IT 25038-59-9P, Polyethylene terephthalate, properties 76727-11-2P, 6,13-Diphenylpentacene **317809-68-0P**, 6,13-Bis(trimethylsilylethynyl)pentacene **373596-08-8P**, 6,13-Bis(triisopropylsilylethynyl)pentacene 499138-96-4P, 2,3,9,10-Tetramethylpentacene 499138-97-5P 499138-98-6P 499138-99-7P 499139-00-3P 499139-01-4P 499139-02-5P
(semiconductor thin film; organic semiconductor components prepared by coating with pentacene-coated transistor films)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 45 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:83146 HCAPLUS Full-text
DOCUMENT NUMBER: 138:329681
TITLE: Mobile ionic impurities in organic semiconductors
AUTHOR(S): Rep, D. B. A.; Morpurgo, A. F.; Sloof, W. G.; Klapwijk, T. M.
CORPORATE SOURCE: Department of NanoScience, Faculty of Applied Sciences, Delft University of Technology, Delft, 2628 CJ, Neth.
SOURCE: Journal of Applied Physics (**2003**), 93(4), 2082-2090
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Feb 2003
AB The authors study the stability in time of the current-voltage characteristics of organic thin-**film** devices on glass substrates. The authors find for poly(3-hexylthiophene) and for pentacene that the resistance of the devices gradually changes under the application of an elec. bias depending on the Na content of the glass substrates used in the experiment For devices on a very common type of glass (with a Na2O content of .apprx.6%) and on soda-lime glass (14% Na2O) substrates, the prolonged application of a voltage bias results in a substantial decrease (up to two orders of magnitude) of the bulk and contact resistances, whereas for Na-free glass substrates the gradual changes in current-voltage characteristics are much smaller. A systematic study of the elec. behavior complemented by chemical anal. shows that the instabilities observed are due to Na+ ions diffusing from the substrate into the organic **film**, and moving inside the organic material as a result of the applied elec. field. The authors' results show in detail how ion motion in organic materials results in substantial hysteresis and device instabilities.
IT **135-48-8**, Pentacene
(stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 57, 66
ST glass substrate sodium diffusion doping pentacene polyhexylthiophene current voltage; semiconductor org **film** sodium doping glass substrate current voltage
IT Borosilicate glasses
(Schott D263 and AF45; stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
IT Doping
(sodium; stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
IT Bias potential
Contact resistance
Diffusion
Electric current-potential relationship
Electric resistance
Electrodiffusion
Glass substrates
Hysteresis
Ion mobility
Semiconductor devices
Semiconductor films
Stability
(stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
IT Soda-lime glasses
(stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
IT 7440-23-5, Sodium, processes
(organic **film**; stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
IT 104934-50-1, Poly(3-hexylthiophene)
(stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
IT **135-48-8**, Pentacene
(stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
IT 1313-59-3, Sodium oxide (Na2O), processes
(stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
IT 17341-25-2, Sodium(1+), processes
(stability in time of current-voltage characteristics of organic thin-**film** devices on glass substrates)
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 46 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:869273 HCAPLUS Full-text
DOCUMENT NUMBER: 137:361452
TITLE: Active semiconductor devices using threads and their fabrication
INVENTOR(S): Solomon, Paul Michael; Shaw, Jane Margaret; Kagan, Cherie R.; Dimitrakopoulos, Christos Dimitrios; Ning, Tak Hung

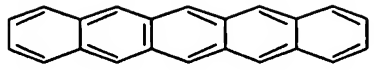
PATENT ASSIGNEE(S): IBM Corporation, USA
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002091490	A1	20021114	WO 2002-US6996 <--	20020308
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002303115	A1	20021118	AU 2002-303115 <--	20020308
EP 1390991	A1	20040225	EP 2002-731116 <--	20020308
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004527131	T	20040902	JP 2002-588646 <--	20020308
CN 1610978	A	20050427	CN 2002-807094 <--	20020308
IN 2003CN01744	A	20060106	IN 2003-CN1744 <--	20031104
PRIORITY APPLN. INFO.:			US 2001-852078 A <--	20010509
			WO 2002-US6996 W <--	20020308

ED Entered STN: 15 Nov 2002

AB Active devices are fabricated at low cost and temperature that have either a thread or a ribbon geometry. The thread geometry includes single thread active devices and multiply thread devices. Single thread devices have a central core that may contain different materials depending upon whether the active device is responsive to elec., light, mech., heat, or chemical energy. Single thread active devices include FETs, electrooptical devices, stress transducers, and the like. The active devices include a semiconductor body that for the single thread device is a **layer** about the core of the thread. For the multiple thread devices, the semiconductor body is either a **layer** on one or more thread or an elongated body disposed between two of the threads. For example, a FET is formed of three threads, of which carried a gate insulator **layer** and a semiconductor **layer** and the other two of which are elec. conductive and serve as the source and drain. The substrates or threads are preferably flexible and can be formed in a fabric.

IT **135-48-8**, Pentacene
(fibers; fabrication of active semiconductor devices using threads)
RN 135-48-8 HCAPLUS
CN Pentacene (CA INDEX NAME)



IC ICM H01L035-24
ICS H01L029-06; H01L051-00; B32B027-12; H05B033-02
CC 76-3 (**Electric** Phenomena)
IT Dielectric **films**
Electrooptical instruments
Field effect transistors
Hybrid organic-inorganic materials
Microfibers
Molecular electronics
Optical fibers
Semiconductor device fabrication
Semiconductor films
Textiles
Threads
(fabrication of active semiconductor devices using threads)
IT 110-02-1, Thiophene **135-48-8**, Pentacene 25233-34-5,
Polythiophene
(fibers; fabrication of active semiconductor devices using threads)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 47 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:833136 HCAPLUS Full-text
DOCUMENT NUMBER: 137:319745
TITLE: Chemical and biological sensor using organic self-assembled transistors
INVENTOR(S): Campbell, Ian H.; Smith, Darryl L.
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002086979	A1	20021031	WO 2002-US10984 <--	20020410
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002167003	A1	20021114	US 2001-837245 <--	20010418
AU 2002311806	A1	20021105	AU 2002-311806	20020410

PRIORITY APPLN. INFO.: US 2001-837245 A 20010418
WO 2002-US10984 W 20020410

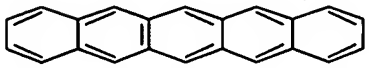
ED Entered STN: 01 Nov 2002

AB An organic self-assembled transistor uses an organic self-assembled monolayer as the active semiconductor layer in which the conducting channel is formed. The monolayer is exposed to the atmospheric; thereby making the voltage characteristics of the transistor, such as mobility and d. of charge carriers, very sensitive to vapor mols. The chemical specificity and strength of interaction of the monolayer is tuned by varying the chemical end group of the organic mols. comprising the monolayer. Varying the chemical end groups allows fabrication of large transistor arrays easily tailored for sensor array or electronic nose applications. The monolayer is also compatible with known low-cost VLSI silicon fabrication processes.

IT **135-48-8**, Pentacene
(adsorbed substances detection by chemical and biol. sensors based on organic self-assembled transistors)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L035-24
ICS H01L051-00

CC 80-2 (Organic Analytical Chemistry)
Section cross-reference(s): **76**

IT Adsorbed substances
Functional groups
Gate contacts
Self-assembled monolayers
Semiconductor device fabrication
Semiconductor films
Semiconductor gas sensors
Transistors
(adsorbed substances detection by chemical and biol. sensors based on organic self-assembled transistors)

IT 100-42-5D, derivs. **135-48-8**, Pentacene 536-74-3D, Phenylacetylene, derivs.
(adsorbed substances detection by chemical and biol. sensors based on organic self-assembled transistors)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

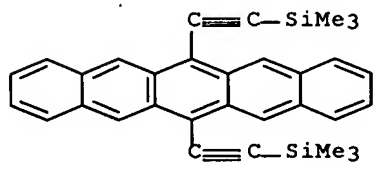
L63 ANSWER 48 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:820697 HCAPLUS Full-text
DOCUMENT NUMBER: 138:99071
TITLE: Photoresponse of the conductivity in functionalized pentacene compounds
AUTHOR(S): Tokumoto, T.; Brooks, J. S.; Clinite, R.; Wei, X.; Anthony, J. E.; Eaton, D. L.; Parkin, S. R.
CORPORATE SOURCE: Department of Physics and NHMFL, Florida State

University, Tallahassee, FL, 32310, USA
SOURCE: Journal of Applied Physics (2002), 92(9), 5208-5213
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 29 Oct 2002

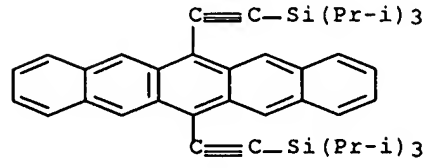
AB We report the investigation of the photoresponse of the conductivity of a recently synthesized class of organic semiconductors based on functionalized pentacene. These materials form high quality single crystals that exhibit a thermally activated resistivity. Unlike pure pentacene, the functionalized derivs. are readily soluble in acetone, and can be evaporated or spincast as thin films for potential device applications. The elec. conductivity of the single crystal materials is noticeably sensitive to ambient light changes. The purpose, therefore, of the present study, is to determine the nature of the photoresponse in terms of carrier activation vs. heating effects, and also to measure the dependence of the photoresponse on photon energy. We describe a method, involving the temperature dependent photoresponse, which allows an unambiguous identification of the signature of heating effects in materials with a thermally activated conductivity We find strong evidence that the photoresponse in the materials investigated is predominantly a highly localized heating mechanism. Wavelength dependent studies of the photoresponse reveal resonant features and cutoffs that indicate the photon energy absorption is related to the electronic structure of the material.

IT **317809-68-0 373596-08-8**
(local heating effects in photocond. of functionalized pentacene derivs.)

RN 317809-68-0 HCAPLUS
CN Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



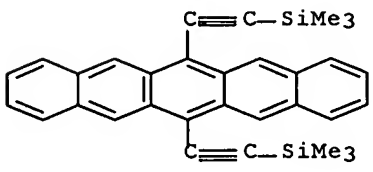
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-5 (**Electric** Phenomena)

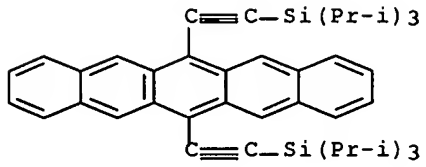
Section cross-reference(s): 28
IT **317809-68-0 373596-08-8**
(local heating effects in photocond. of functionalized pentacene derivs.)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 49 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:565200 HCAPLUS Full-text
DOCUMENT NUMBER: 137:247281
TITLE: Band Electronic Structure of One- and Two-Dimensional Pentacene Molecular Crystals
AUTHOR(S): Haddon, R. C.; Chi, X.; Itkis, M. E.; Anthony, J. E.; Eaton, D. L.; Siegrist, T.; Mattheus, C. C.; Palstra, T. T. M.
CORPORATE SOURCE: Departments of Chemistry and Chemical & Environmental Engineering, University of California, Riverside, CA, 92521-0403, USA
SOURCE: Journal of Physical Chemistry B (2002), 106(33), 8288-8292
CODEN: JPCBFK; ISSN: 1089-5647
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 31 Jul 2002
AB EHT calcns. of the band electronic structure of substituted pentacene derivs. and the polymorphs of the parent compound are reported. The results show that there are wide disparities among the bandwidths and electronic dimensionalities of these compds. The parent pentacene polymorphs are 2-dimensional in their band electronic structure with moderate dispersions; the bandwidths in the 14.1 Å d-spacing polymorph are noticeably larger than for the 14.5 Å d-spacing polymorph, reported by Campbell. Whereas the parent pentacene polymorphs adopt the well-known herringbone packing, the new, substituted pentacenes are noticeably different in their solid state structures and this is reflected in the band electronic structures. TMS adopts a highly 1-dimensional structure that leads to a large bandwidth along the stacking direction; TIPS also adopts a stacked structure, but because the mols. are laterally interleaved in the fashion of bricks in a wall, this compound is strongly 2-dimensional.
IT **317809-68-0 373596-08-8**
(band electronic structure of one- and two-dimensional pentacene mol. crystals)
RN 317809-68-0 HCAPLUS
CN Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 22-2 (Physical Organic Chemistry)
Section cross-reference(s): 29, 75, **76**
IT 99685-96-8, C60 Fullerene **317809-68-0 373596-08-8**
(band electronic structure of one- and two-dimensional pentacene mol. crystals)
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

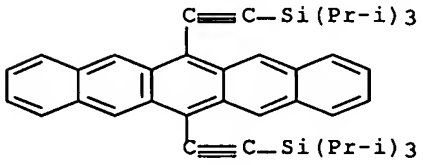
L63 ANSWER 50 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:299609 HCAPLUS Full-text
DOCUMENT NUMBER: 137:161070
TITLE: RGB emission using a dimesitylboryl-bithiophene derivative as a universal host and pentacene derivatives as the red emitters
AUTHOR(S): Picciolo, Lisa C.; Murata, Hideyuki; Gondarenko, A.; Noda, Tetsuya; Shirota, Yasuhiko; Eaton, D. L.; Anthony, J. E.; Kafafi, Zakya H.
CORPORATE SOURCE: U.S. Naval Research Laboratory, Washington, DC, 20375, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2002), 4464(Organic Light-Emitting Materials and Devices V), 383-395
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 22 Apr 2002
AB Ph, ethynyl-silyl and ethynyl-alkyl derivs. of pentacene were optically characterized and their use as potential red **emitters** in organic **light emitting** devices was studied. Tuning of the red emission wavelength and photoluminescence quantum efficiency (ϕ pl) is achieved by modifying the substituent and its position on the pentacene backbone. A red shift in the emission maxima (λ maximum) is observed upon addition of more Ph groups or changing from a Ph to an ethynyl-R due to an increase in π -conjugation. For example, the λ max of 6,13-diphenylpentacene (DPP) is 617 nm compared to 630 nm for 5,7,12,14-tetraphenylpentacene (TPP). Similarly, the diethynyl pentacene derivs. have a red shifted λ max (638 nm), relative to that of DPP, due to the greater conjugation associated with the triple bond of the ethynyl group. DPP is explored as a red emitter in a universal blue host due to its ideal red chromaticity and good ϕ pl. Red and green emission is achieved in multi-layered devices through the incorporation of an emitting layer based on a blue-emitting/electron transporting universal host, 5,5'-bis(dimesitylboryl)-2,2'-bithiophene (BMB-2T), doped with fluorescent red and

green emitters, resp. Blue emission can be obtained from the host BMB-2T, or from the adjacent hole transporter. A hole-blocking layer was used for the latter case to force electron and hole recombination in the hole transporting layer. The host and guest mols. are selected to take advantage of two electroluminescence mechanisms, energy transfer from host to guest and direct carrier recombination on the guest mols. Hence, one can tune the emission color while maintaining high device efficiency. This approach is also technol. advantageous because it minimizes the number of materials used, reduces cross contamination and production costs.

IT **373596-08-8**
(RGB emission using a dimesitylboryl-bithiophene derivative as a universal host and pentacene derivs. as red emitters)

RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST dimesitylboryl bithiophene deriv pentacene electroluminescent device **luminescence** efficiency

IT **Electroluminescent devices**
Luminescence
(RGB emission using a dimesitylboryl-bithiophene derivative as a universal host and pentacene derivs. as red emitters)

IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 76727-11-2, 6,13-Diphenylpentacene 76727-12-3 **373596-08-8** 398128-75-1
(RGB emission using a dimesitylboryl-bithiophene derivative as a universal host and pentacene derivs. as red emitters)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 51 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:234204 HCAPLUS Full-text

DOCUMENT NUMBER: 137:71192

TITLE: Photo-response of the conductivity in functionalized pentacene compounds

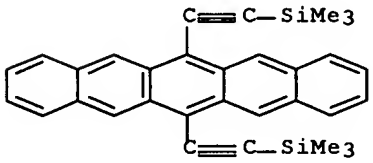
AUTHOR(S): Tokumoto, T.; Brooks, J. S.; Clinite, R.; Wei, X.; Anthony, J. E.; Eaton, D. L.; Parkin, S. R.

CORPORATE SOURCE: Physics Dep., NHMFL, Florida State Univ., Tallahassee, FL, 32310, USA

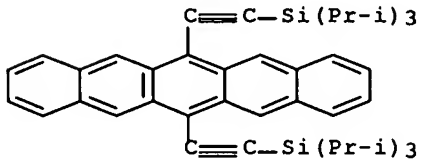
SOURCE: Los Alamos National Laboratory, Preprint Archive, Condensed Matter (2002) 1-18, arXiv:cond-mat/0203522, 26 Mar 2002
CODEN: LNCMFR
URL: http://xxx.lanl.gov/pdf/cond-mat/0203522

PUBLISHER: Los Alamos National Laboratory

DOCUMENT TYPE: Preprint
LANGUAGE: English
ED Entered STN: 28 Mar 2002
AB The authors report the 1st study of the photo-response of the conductivity of a new class of organic semiconductors based on functionalized pentacene. These materials form high quality single crystals that exhibit a thermally activated resistivity. Unlike pure pentacene, the functionalized derivs. are readily soluble in acetone, and can be evaporated or spin-cast as thin films for potential device applications. The elec. conductivity of the single crystal materials is noticeably sensitive to ambient light changes. The purpose, therefore, of the present study, is to determine the nature of the photo-response in terms of carrier activation vs. heating effects, and also to measure the dependence of the photo-response on photon energy. The authors describe a new method, involving the temperature dependent photo-response, which allows an unambiguous identification of the signature of heating effects in materials with a thermally activated conductivity The authors find strong evidence that the photo-response in the materials studied is predominantly a highly localized heating mechanism. Wavelength dependent studies of the photo-response reveal resonant features and cut-offs that indicate the photon energy absorption is related to the electronic structure of the material.
IT **317809-68-0 373596-08-8**
(local heating effects in photocond. of functionalized pentacene derivs.)
RN 317809-68-0 HCAPLUS
CN Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



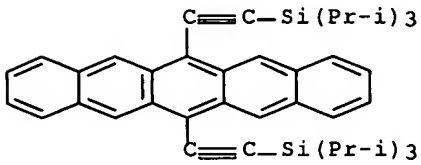
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



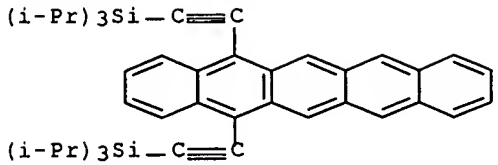
CC 76-5 (**Electric** Phenomena)
Section cross-reference(s): 28
IT **317809-68-0 373596-08-8**
(local heating effects in photocond. of functionalized pentacene derivs.)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 52 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:627686 HCAPLUS Full-text
DOCUMENT NUMBER: 135:371415
TITLE: Functionalized Pentacene: Improved Electronic Properties from Control of Solid-State Order
AUTHOR(S): Anthony, John E.; Brooks, James S.; Eaton, David L.; Parkin, Sean R.
CORPORATE SOURCE: Department of Chemistry, University of Kentucky, Lexington, KY, 40506-0055, USA
SOURCE: Journal of the American Chemical Society (2001), 123(38), 9482-9483
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:371415
ED Entered STN: 30 Aug 2001
AB 6,13-Bis(triisopropylsilylethynyl)pentacene (1) was prepared in a 1-pot reaction from 6,13-pentacenequinone; in the solid state, 1 stacked in 2-dimensional columnar arrays with significant overlap of pentacene rings in adjacent mols. (interplanar spacing of aromatic rings was 3.47Å for 1 vs. 6.27Å for unsubstituted pentacene). 1 Exhibited anisotropic resistivity in the crystal, with all values significantly lower than for high-purity pentacene. The asym. 5,14 analog of 1 (2) was also prepared, but its herringbone crystal structure produced higher resistivity along all crystallog. axes. Band gaps in 1 and 2 were measured. The surface resistivity of a vacuum-evaporated film of 1 corresponded to the resistivity along the π-stacking crystal axis, implying the formation of a highly ordered film with the silyl groups on the glass surface and π-stacking in the direction of current flow.
IT **373596-08-8P**, 6,13-Bis(triisopropylsilylethynyl)pentacene
373596-09-9P, 5,14-Bis(triisopropylsilylethynyl)pentacene
(preparation, crystallog., and resistivity of functionalized pentacenes in the crystal and thin film)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 373596-09-9 HCAPLUS
CN Silane, (5,14-pentacenediyldi-2,1-ethynediyl)bis[tris(1-methylethyl)-(9CI) (CA INDEX NAME)



CC 22-13 (Physical Organic Chemistry)
Section cross-reference(s): 29, 75, **76**
IT **373596-08-8P**, 6,13-Bis(triisopropylsilylethynyl)pentacene
373596-09-9P, 5,14-Bis(triisopropylsilylethynyl)pentacene
(preparation, crystallog., and resistivity of functionalized pentacenes in the crystal and thin film)
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L63 ANSWER 53 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:12763 HCAPLUS Full-text
DOCUMENT NUMBER: 134:93174
TITLE: Organic **light emitters** with improved carrier injection
INVENTOR(S): Jackson, Thomas N.; Klauk, Hagen
PATENT ASSIGNEE(S): The Penn State Research Foundation, USA
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001001452	A2	20010104	WO 2000-US17325 <--	20000623
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2000078246	A	20010131	AU 2000-78246 <--	20000623
US 6720572	B1	20040413	US 2000-602438 <--	20000623
PRIORITY APPLN. INFO.:			US 1999-141161P <--	P 19990625
			WO 2000-US17325 <--	W 20000623

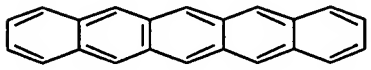
ED Entered STN: 05 Jan 2001
AB **Light-emitting** devices are described which comprise a first elec. conductive contact layer and a second elec. conductive contact layer between which are sandwiched a **light -emitting** layer that includes a first organic material and

a semiconductor layer that includes a second organic material. When used as a diode, the first and second contacts are functionally the anode and cathode. The devices can be configured as field-effect transistor deviced by adding a gate contact and a gate dielec. The first and second contacts then addnl. have the function of source and drain, depending on whether the organic semiconductor material is a p-type or an n-type.

IT **135-48-8**, Pentacene
(organic **light-emitting** devices with improved carrier injection)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM H01L

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

ST org **light emitting** device

IT **Field effect transistors**
(organic **light-emitting** devices with improved carrier injection configured as)

IT **Electroluminescent devices**
(organic; organic **light-emitting** devices with improved carrier injection)

IT **135-48-8**, Pentacene 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7429-90-5, Aluminum, uses 7440-05-3, Palladium, uses 7631-86-9, Silicon dioxide, uses 12033-89-5, Silicon nitride, uses 50926-11-9, Indium tin oxide 65181-78-4, TPD
(organic **light-emitting** devices with improved carrier injection)

L63 ANSWER 54 OF 54 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:723129 HCAPLUS Full-text

DOCUMENT NUMBER: 131:344028

TITLE: Emissive polymers and devices incorporating these polymers

INVENTOR(S): Swager, Timothy; Yang, Jye-Shane; Williams, Vance; Miao, Yi-Jun; Lugmair, Claus G.; Levitsky, Igor A.; Kim, Jinsang; Deans, Robert

PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA

SOURCE: PCT Int. Appl., 109 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9957222	A1	19991111	WO 1999-US9852 <--	19990505

W: CA, JP
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,

NL, PT, SE				
EP 1080162	A1	20010307	EP 1999-921696 <--	19990505
EP 1080162	B1	20040310		
R: AT, DE, FR, GB, IT				
EP 1281744	A2	20030205	EP 2002-24311 <--	19990505
EP 1281744	A3	20030212		
R: AT, DE, FR, GB, IT				
AT 261483	T	20040315	AT 1999-921696 <--	19990505
PRIORITY APPLN. INFO.:			US 1998-84247P <--	P 19980505
			EP 1999-921696 <--	A3 19990505
			WO 1999-US9852 <--	W 19990505

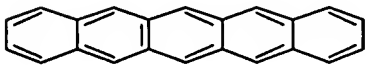
ED Entered STN: 12 Nov 1999

AB **Luminescent** and conductive polymer compns. having chromophores are described which comprise polymers having rigid groups designed to prevent polymer reorganization, aggregation or π-stacking upon solidification. Sensors and methods for sensing an analyte through the **luminescent** and conductive properties of these polymers are also described. Analytes can be sensed by activation of a chromophore at a polymer surface. Analytes may include aroms., phosphate ester groups and in particular explosives and chemical warfare agents in gaseous state. Devices and methods for amplifying emissions by incorporating a polymer having an energy migration pathway and/or providing the polymer as a block copolymer or as a multilayer are also described. Field-effect transistors employing the polymers are also described.

IT **135-48-8**, Pentacene
(in preparation of **luminescent** polymers and sensors and devices incorporating them)

RN 135-48-8 HCAPLUS

CN Pentacene (CA INDEX NAME)



IC ICM C09K011-06
ICS H01L051-20; G01N021-64; H01B001-12

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 9, 38, 50, 76, 79, 80

ST FET **luminescent** conductive polymer; sensor **luminescent** conductive polymer

IT Conducting polymers
Field effect transistors
Luminescent substances
Optical amplifiers
Optical gain
Optical sensors
Sensors
(**luminescent** polymers and sensors and devices incorporating them)

IT Chemical warfare agents
Explosives
(**luminescent** polymers and sensors and devices incorporating them for sensing)

IT 249922-31-4P 444890-64-6DP, reaction products with aminomethylated polystyrene resin
(in preparation of **luminescent** polymers and sensors and devices incorporating them)

IT 249922-19-8DP, reaction products with functionalized resins
(in preparation of **luminescent** polymers and sensors and devices incorporating them)

IT 106-51-4, 2,5-Cyclohexadiene-1,4-dione, reactions 120-12-7, Anthracene, reactions 120-80-9, 1,2-Dihydroxybenzene, reactions **135-48-8**, Pentacene 150-78-7, 1,4-Dimethoxybenzene 592-57-4, 1,3-Cyclohexadiene 619-58-9, 4-Iodobenzoic acid 1066-54-2, Trimethylsilylacetylene 18908-66-2, 2-Ethylhexylbromide 31093-44-4, Naphthalene boronic acid 63262-06-6, 1,4-Dibromo-2,5-diiodobenzene 145483-64-3, 1,4-Dihexadecyloxy-2,5-diiodobenzene 220080-67-1 222405-92-7
(in preparation of **luminescent** polymers and sensors and devices incorporating them)

IT 2050-46-6P, 1,2-Diethoxybenzene 3519-82-2P 5969-70-0P 6932-41-8P 6932-42-9P 25934-47-8P, 1,2-Didecyloxybenzene 51934-41-9P 53207-08-2P 78823-45-7P 94762-46-6P 115208-28-1P 195321-60-9P 214461-09-3P 214461-10-6P 214461-12-8P 214461-13-9P 220080-67-1DP, polymer with diethynyltetrahydrodibenzenopentacene 220080-74-0P 220080-99-9P 220081-01-6P 220081-04-9P 220081-06-1P 233661-07-9P 249918-56-7P 249919-48-0P 249922-67-6P 249922-90-5P 249923-14-6P 249923-23-7P 249923-31-7P 249923-82-8P 249923-84-0P 249923-86-2P 249923-88-4P 249923-90-8P 249923-91-9P 249923-93-1P 249923-95-3P 249923-98-6P 249924-03-6P 249924-04-7P 249924-06-9P 249924-08-1P 249924-10-5P 249924-13-8P 249924-15-0P 249924-17-2P 249924-23-0P 444890-64-6P
(in preparation of **luminescent** polymers and sensors and devices incorporating them)

IT 167895-30-9DP, polymer with diethynyltetrahydrodibenzenopentacene 214461-10-6DP, polymer with dioctylcarbamoyldiiodobenzene 220080-74-0DP, polymer with diiodobistetradecyloxybenzene
(**luminescent** polymers and sensors and devices incorporating them)

IT 9003-53-6D, functionalized 167895-30-9
(**luminescent** polymers and sensors and devices incorporating them)

IT 118-96-7, TNT 25321-14-6, Dinitrotoluene
(**luminescent** polymers and sensors and devices incorporating them for sensing)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L13         3411 SEA FILE=HCAPLUS ABB=ON   PLU=ON  L6
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L57           31 SEA FILE=HCAPLUS ABB=ON   PLU=ON  VERES, J?/AU
L58           23 SEA FILE=HCAPLUS ABB=ON   PLU=ON  ANEMIAN, R?/AU
L59        10561 SEA FILE=HCAPLUS ABB=ON   PLU=ON  WILLIAMS, R?/AU
L60           36 SEA FILE=HCAPLUS ABB=ON   PLU=ON  OGIER, S?/AU
L61           24 SEA FILE=HCAPLUS ABB=ON   PLU=ON  LEEMING, S?/AU
L62            4 SEA FILE=HCAPLUS ABB=ON   PLU=ON  (L56 OR L57 OR L58 OR L59
                  OR L60 OR L61) AND L13


=> d l62 1-4 ibib ed abs hitstr hitind

L62  ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2006:1252333  HCAPLUS  Full-text
DOCUMENT NUMBER:          146:37413
TITLE:                    Oligomeric polyacene and semiconductor formulation
INVENTOR(S):              Leeming, Stephen William; Anemian,
                          Remi Manouk; Williams, Richard;
                          Brown, Beverley Anne
PATENT ASSIGNEE(S):       Merck Patent G.m.b.H., Germany
SOURCE:                   PCT Int. Appl., 90pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

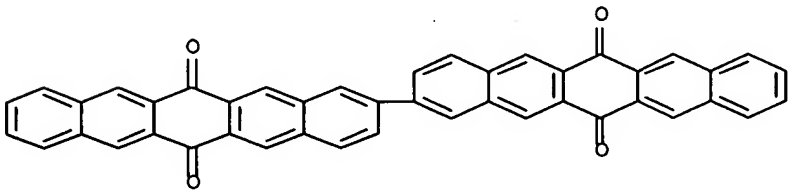
     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     WO 2006125504         A1    20061130    WO 2006-EP3889           20060426
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
             CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
             GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,
             KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG,
             MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
             RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT,
             TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
             IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
             TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
             ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.:                       EP 2005-11063        A  20050521

                                             US 2005-683297P      P  20050523

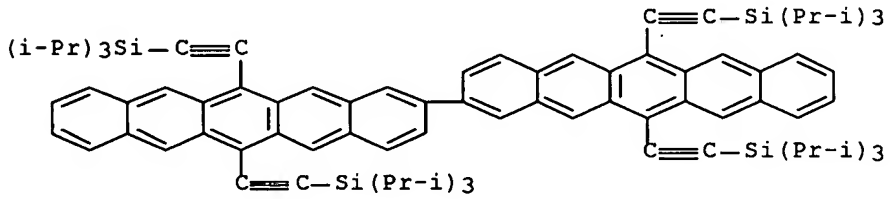
OTHER SOURCE(S):          MARPAT 146:37413
ED   Entered STN:  01 Dec 2006
AB   The invention relates to novel oligomeric polyacene compds., organic
     semiconducting formulations and layers comprising them, a process for
     preparing the formulation and layer and electronic devices, including organic
     field effect transistors (OFETs), comprising the same.
IT   915978-20-0, [2,2'-Bipentacene]-6,6',13,13'-tetrone
     915978-21-1 915978-24-4 915978-25-5
     915978-28-8 915978-29-9 915978-30-2
```

915978-32-4
(oligomeric polyacene and semiconductor formulation for field effect transistors and optoelectronic devices)

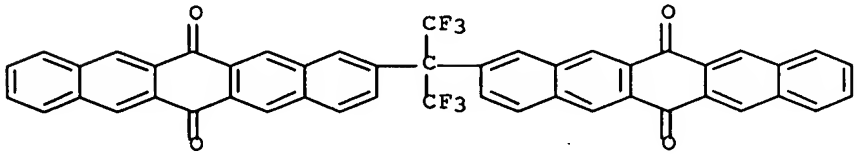
RN 915978-20-0 HCAPLUS
CN [2,2'-Bipentacene]-6,6',13,13'-tetrone (CA INDEX NAME)



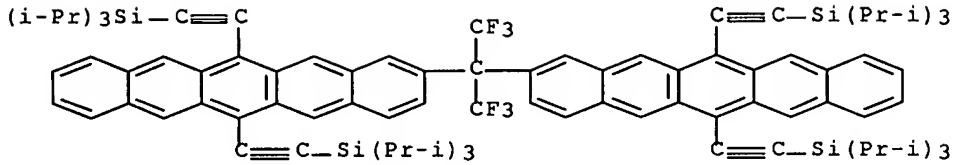
RN 915978-21-1 HCAPLUS
CN 2,2'-Bipentacene, 6,6',13,13'-tetrakis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 915978-24-4 HCAPLUS
CN 6,13-Pentacenedione, 2,2'-(2,2,2-trifluorideneethylidene)bis- (CA INDEX NAME)

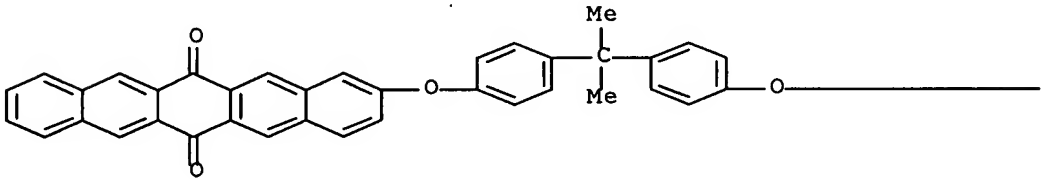


RN 915978-25-5 HCAPLUS
CN Pentacene, 2,2'-(2,2,2-trifluorideneethylidene)bis[6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)

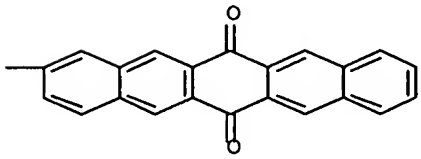


RN 915978-28-8 HCAPLUS
CN 6,13-Pentacenedione, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis- (CA INDEX NAME)

PAGE 1-A

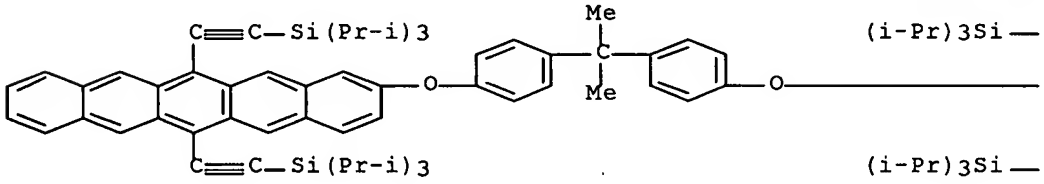


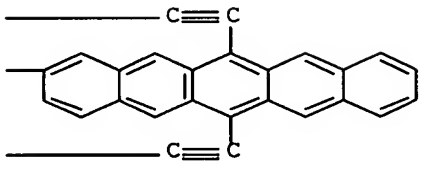
PAGE 1-B



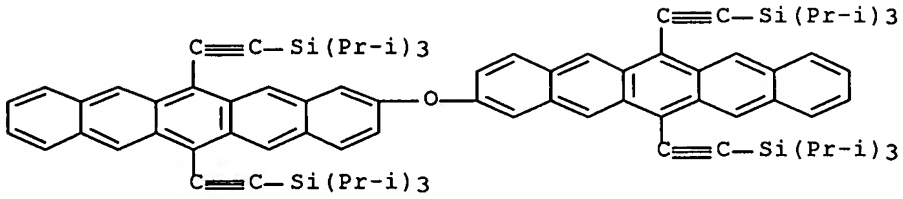
RN 915978-29-9 HCAPLUS
CN Pentacene, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)

PAGE 1-A

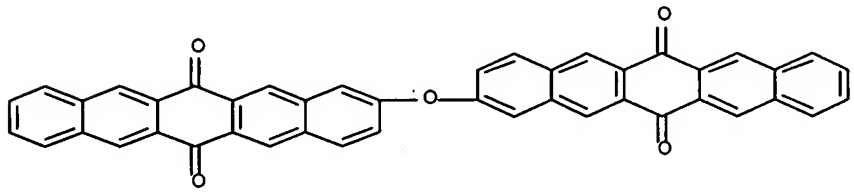




RN 915978-30-2 HCAPLUS
CN Pentacene, 2,2'-oxybis[6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



RN 915978-32-4 HCAPLUS
CN 6,13-Pentacenedione, 2,2'-oxybis- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
Section cross-reference(s): 22, 28
IT 635-12-1, 1,4-Anthracenedione 7218-35-1, 1,4-Anthracenediol 850084-03-6 915978-18-6, [1,1'-Biphenyl]-3,3',4,4'-tetramethanol 915978-19-7 **915978-20-0**, [2,2'-Bipentacene]-6,6',13,13'-tetrone **915978-21-1** 915978-22-2 915978-23-3 **915978-24-4** **915978-25-5** 915978-26-6 915978-27-7 **915978-28-8** **915978-29-9** **915978-30-2** 915978-31-3 **915978-32-4**
(oligomeric polyacene and semiconductor formulation for field effect transistors and optoelectronic devices)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1206222 HCAPLUS Full-text
DOCUMENT NUMBER: 145:515020

TITLE: Polyacene and semiconductor formulation
INVENTOR(S): **Anemian, Remi Manouk; Leeming, Stephen William**
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: PCT Int. Appl., 67pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

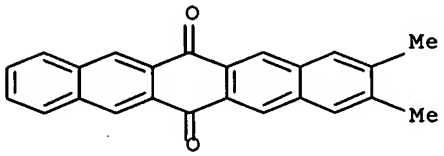
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006119853	A1	20061116	WO 2006-EP3671	20060421

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

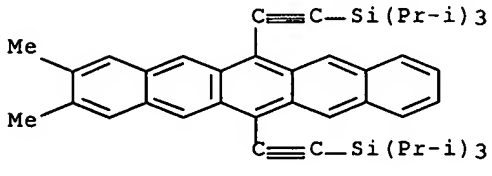
EP 2005-10384	A	20050512
US 2005-679986P	P	20050512
EP 2005-10468	A	20050513
US 2005-682815P	P	20050520

OTHER SOURCE(S): MARPAT 145:515020
ED Entered STN: 17 Nov 2006
AB The invention relates to novel polyacene compds., organic semiconducting formulations and layers comprising them, a process for preparing the formulation and layer and electronic devices, including organic field effect transistors (OFETs), comprising the same.
IT **758706-00-2**
(polyacene and semiconductor formulation for organic field effect transistor and electronic devices)
RN 758706-00-2 HCAPLUS
CN 6,13-Pentacenedione, 2,3-dimethyl- (9CI) (CA INDEX NAME)



IT **914922-85-3P**
(polyacene and semiconductor formulation for organic field effect transistor and electronic devices)
RN 914922-85-3 HCAPLUS

CN Silane, [(2,3-dimethyl-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
Section cross-reference(s): 22, 28

IT 635-12-1, 1,4-Anthracenedione 7218-35-1, 1,4-Dihydroxyanthracene **758706-00-2** 914922-86-4, Naphthaceno[2,3-b]thiophene-5,12-dione
(polyacene and semiconductor formulation for organic field effect transistor and electronic devices)

IT 911469-62-0P **914922-85-3P**
(polyacene and semiconductor formulation for organic field effect transistor and electronic devices)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

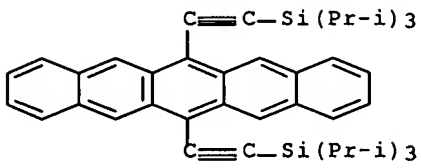
L62 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:437554 HCAPLUS Full-text
DOCUMENT NUMBER: 144:479184
TITLE: Process for making an organic field effect transistor with areas of reduced carrier mobility
INVENTOR(S): **Brown, Beverley Anne; Veres, Janos; Ogier, Simon Dominic**
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006048092	A1	20060511	WO 2005-EP10661	20051004

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: GB 2004-24342 A 20041103

ED Entered STN: 11 May 2006
AB The present invention relates to a process for reducing the mobility of an organic semiconductor (OSC) layer in an electronic device having a semiconducting channel area. The mobility of the OSC is reduced in specific areas outside the channel area by applying an oxidizing agent to the OSC layer.
IT **373596-08-8**
(organic semiconductor layer; process for making an organic field effect transistor with areas of reduced carrier mobility)
RN 373596-08-8 HCAPLUS
CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
IT **373596-08-8**
(organic semiconductor layer; process for making an organic field effect transistor with areas of reduced carrier mobility)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L62 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:523782 HCAPLUS Full-text
DOCUMENT NUMBER: 143:69829
TITLE: Improvements in and relating to organic semiconducting layers
INVENTOR(S): **Brown, Beverley Anne; Veres, Janos; Anemian, Remi Manouk; Williams, Richard Thomas; Ogier, Simon Dominic; Leeming, Stephen William**
PATENT ASSIGNEE(S): Avecia Limited, UK
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005055248	A2	20050616	WO 2004-GB4973	20041125
WO 2005055248	A3	20050728		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,

MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL,
PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG

EP 1687830 A2 20060809 EP 2004-819715 20041125
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS

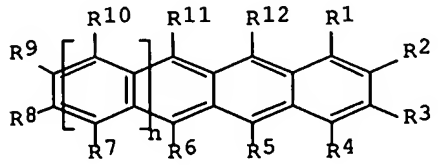
PRIORITY APPLN. INFO.: GB 2003-27654 A 20031128

GB 2004-7852 A 20040407

GB 2004-14347 A 20040626

WO 2004-GB4973 W 20041125

OTHER SOURCE(S): MARPAT 143:69829
ED Entered STN: 17 Jun 2005
GI



I

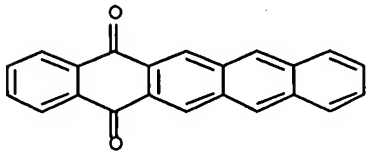
AB An organic semiconducting layer formulation (I), which comprises: an organic binder which has a permittivity, ε, at 1,000 Hz of 3.3 or less; and a polyacene compound of Formula: A: wherein: each of R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11 and R12, which may be the same or different, independently represents hydrogen; an optionally substituted C1-C40 carbyl or hydrocarbyl group; an optionally substituted C1-C40 alkoxy group; an optionally substituted C6-C40 aryloxy group; an optionally substituted C7-C40 alkylaryloxy group; an optionally substituted C2-C40 alkoxycarbonyl group; an optionally substituted C7-C40 aryloxycarbonyl group; a cyano group (-CN); a carbamoyl group (-C(= O)NH2); a haloformyl group (-C(= O)-X, wherein X represents a halogen atom); a formyl group (-C(= O)-H); an isocyano group; an isocyanate group; a thiocyanate group or a thioisocyanate group; an optionally substituted amino group; a hydroxy group. A nitro group; a CF3 group; a halo group (CI, Br, F); or an optionally substituted silyl group; and wherein independently each pair of R2 and R3 and/or R8 and R9, may be cross-bridged to form a C4-C40 saturated or unsatd. ring, which saturated or unsatd. ring may be intervened by an oxygen atom, a sulfur atom or a group shown by formula -N(Ra)- (wherein Ra is a hydrogen atom or an optionally substituted hydrocarbon group), or may optionally be substituted; and wherein one or more of the carbon atoms of the polyacene skeleton may optionally be substituted by a heteroatom selected from N, P, As, O, S, Se and Te; and wherein independently any two or more of the substituents R1-R12 which are located on adjacent ring positions of the polyacene may, together, optionally constitute a further C4-C40 saturated or unsatd. ring optionally interrupted by O, S or -N(Ra) where

Ra is as defined above or an aromatic ring system, fused to the polyacene; and wherein n is 0, 1, 2, 3 or 4, also claimed is an electronic device, particularly.

IT **6006-83-3**, 5,14-Pentacenedione **317809-68-0** **373596-08-8** **373596-09-9** **398128-81-9** **607387-98-4** **854519-90-7** **854519-91-8** **854519-93-0** **854519-94-1** **854519-95-2** **854519-96-3** **854519-99-6** **854520-00-6**
(improvements in and relating to organic semiconducting layers for organic FETs)

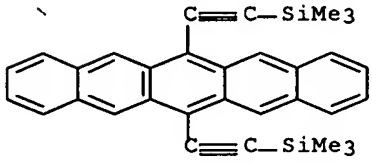
RN 6006-83-3 HCAPLUS

CN 5,14-Pentacenedione (8CI, 9CI) (CA INDEX NAME)



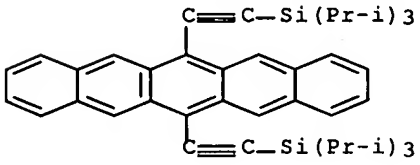
RN 317809-68-0 HCAPLUS

CN Silane, (6,13-pentacenediyldi-2,1-ethynediyl)bis[trimethyl- (9CI) (CA INDEX NAME)



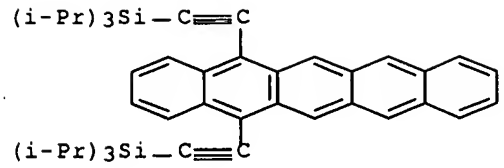
RN 373596-08-8 HCAPLUS

CN Pentacene, 6,13-bis[2-[tris(1-methylethyl)silyl]ethynyl]- (CA INDEX NAME)

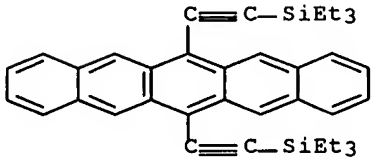


RN 373596-09-9 HCAPLUS

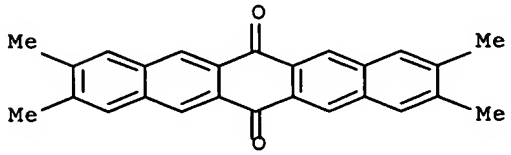
CN Silane, (5,14-pentacenediyldi-2,1-ethynediyl)bis[tris(1-methylethyl)-(9CI) (CA INDEX NAME)



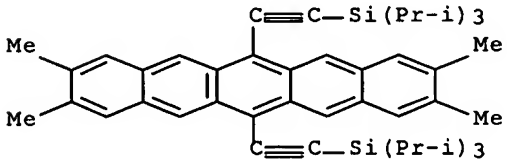
RN 398128-81-9 HCAPLUS
CN Pentacene, 6,13-bis[2-(triethylsilyl)ethynyl]- (CA INDEX NAME)



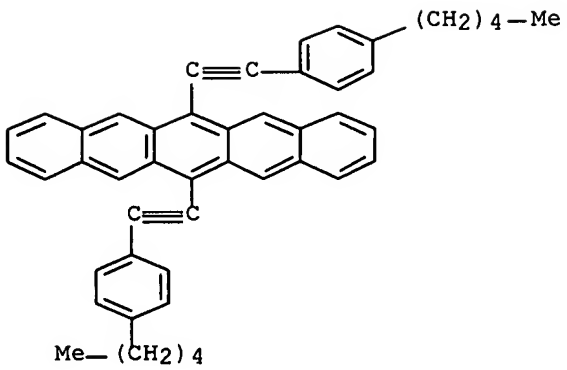
RN 607387-98-4 HCAPLUS
CN 6,13-Pentacenedione, 2,3,9,10-tetramethyl- (9CI) (CA INDEX NAME)



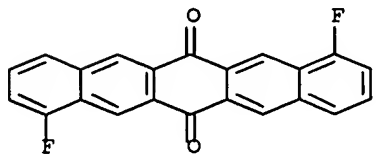
RN 854519-90-7 HCAPLUS
CN Silane, [(2,3,9,10-tetramethyl-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)



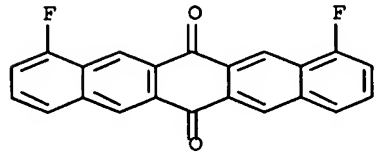
RN 854519-91-8 HCAPLUS
CN Pentacene, 6,13-bis[2-(4-pentylphenyl)ethynyl]- (CA INDEX NAME)



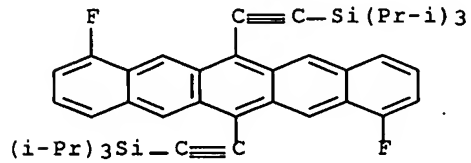
RN 854519-93-0 HCAPLUS
CN 6,13-Pentacenedione, 1,8-difluoro- (9CI) (CA INDEX NAME)



RN 854519-94-1 HCAPLUS
CN 6,13-Pentacenedione, 1,11-difluoro- (9CI) (CA INDEX NAME)

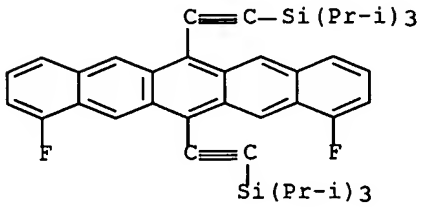


RN 854519-95-2 HCAPLUS
CN Silane, [(1,8-difluoro-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)

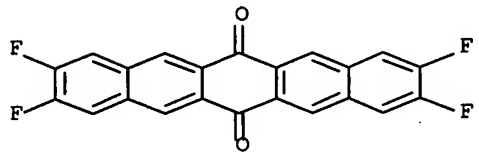


RN 854519-96-3 HCAPLUS

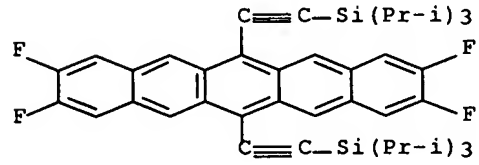
CN Silane, [(1,11-difluoro-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 854519-99-6 HCAPLUS
CN 6,13-Pentacenedione, 2,3,9,10-tetrafluoro- (9CI) (CA INDEX NAME)



RN 854520-00-6 HCAPLUS
CN Silane, [(2,3,9,10-tetrafluoro-6,13-pentacenediyl)di-2,1-ethynediyl]bis[tris(1-methylethyl)- (9CI) (CA INDEX NAME)



IC ICM H01B001-12
ICS H01B001-20; C08L039-04; H01L051-30; H01L051-20
CC 76-3 (Electric Phenomena)
IT **6006-83-3**, 5,14-Pentacenedione 25445-42-5 143746-71-8
143746-72-9 160485-42-7 161747-14-4 **317809-68-0**
373596-08-8 373596-09-9 398128-81-9
607387-98-4 775324-33-9 775324-34-0 **854519-90-7**
854519-91-8 854519-92-9 **854519-93-0**
854519-94-1 854519-95-2 854519-96-3
854519-97-4 854519-98-5 **854519-99-6 854520-00-6**
(improvements in and relating to organic semiconducting layers for organic FETs)

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=> d his nofile

     (FILE 'HOME' ENTERED AT 11:00:18 ON 26 APR 2007)

     FILE 'HCAPLUS' ENTERED AT 11:00:26 ON 26 APR 2007
                E WO2004-GB04973/PRN,PN,AP
L1             1 SEA ABB=ON  PLU=ON  (WO2004-GB4973/PRN OR WO2004-GB4973/AP)
                SEL RN

     FILE 'REGISTRY' ENTERED AT 11:00:43 ON 26 APR 2007
L2            24 SEA ABB=ON  PLU=ON  (143746-71-8/BI OR 143746-72-9/BI OR
                160485-42-7/BI OR 161747-14-4/BI OR 25445-42-5/BI OR
                317809-68-0/BI OR 373596-08-8/BI OR 373596-09-9/BI OR
                398128-81-9/BI OR 6006-83-3/BI OR 607387-98-4/BI OR
                775324-33-9/BI OR 775324-34-0/BI OR 854519-90-7/BI OR
                854519-91-8/BI OR 854519-92-9/BI OR 854519-93-0/BI OR
                854519-94-1/BI OR 854519-95-2/BI OR 854519-96-3/BI OR
                854519-97-4/BI OR 854519-98-5/BI OR 854519-99-6/BI OR
                854520-00-6/BI)
L3              STR
L4            34 SEA SSS SAM L3
L5             3 SEA ABB=ON  PLU=ON  L4 AND PENTACENEDIONE?
L6          1270 SEA ABB=ON  PLU=ON  8481.2/RID
L7            14 SEA ABB=ON  PLU=ON  L6 AND L2
L8            10 SEA ABB=ON  PLU=ON  L2 NOT L7
L9              STR
L10           50 SEA SSS SAM L9
L11       125895 SEA ABB=ON  PLU=ON  2508.17/RID
L12            0 SEA ABB=ON  PLU=ON  L2 AND L11

     FILE 'HCAPLUS' ENTERED AT 11:04:32 ON 26 APR 2007
L13         3411 SEA ABB=ON  PLU=ON  L6
L14           52 SEA ABB=ON  PLU=ON  L7
                E SEMICONDUCTOR FILMS/CT
L15         7451 SEA ABB=ON  PLU=ON  "SEMICONDUCTOR FILMS"+PFT,OLD,NEW,NT/CT

                E FIELD EFFECT TRANSISTORS/CT
L16        52234 SEA ABB=ON  PLU=ON  "FIELD EFFECT TRANSISTORS"+PFT,OLD,NEW,
                NT/CT
L17          443 SEA ABB=ON  PLU=ON  L13 AND (L15 OR L16)
L18          324 SEA ABB=ON  PLU=ON  L17 AND DEV/RL
L19           14 SEA ABB=ON  PLU=ON  ORGANIC SEMICONDUCTING LAYER?
L20            1 SEA ABB=ON  PLU=ON  L18 AND L19
L21          320 SEA ABB=ON  PLU=ON  L18 AND ELECTRIC?/SC,SX
L22           36 SEA ABB=ON  PLU=ON  L21 AND L15
L23          198 SEA ABB=ON  PLU=ON  L18 AND SEMICONDUCT?
L24          197 SEA ABB=ON  PLU=ON  L23 AND ELECTRIC?/SC,SX
L25          148 SEA ABB=ON  PLU=ON  L24 AND ORGANIC?(3A)(SEMICONDUCT? OR
                CONDUCT?)
L26          123 SEA ABB=ON  PLU=ON  L25 AND (LAYER? OR FILM? OR BILAYER?
                OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY? OR OVERLAID?
                OR MULTILAYER?)
L27           11 SEA ABB=ON  PLU=ON  L26 AND SOLVENT?
L28            4 SEA ABB=ON  PLU=ON  L26 AND BINDER?
L29            4 SEA ABB=ON  PLU=ON  L26 AND (COMPOSITION? OR FORMULATION?
                OR MIXTUR?)
L30           13 SEA ABB=ON  PLU=ON  (L27 OR L28 OR L29)
L31           42 SEA ABB=ON  PLU=ON  L22 OR L30
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L32          18 SEA ABB=ON  PLU=ON  L31 AND (1840-2003)/PRY,AY,PY
L33         299 SEA ABB=ON  PLU=ON  L18 AND ELECTRIC?/SC
L34         119 SEA ABB=ON  PLU=ON  L33 AND (1840-2003)/PRY,AY,PY
L35          92 SEA ABB=ON  PLU=ON  L34 AND (LAYER? OR FILM? OR BILAYER?
                OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?  OR OVERLAID?
                 OR MULTILAYER?)
L36          15 SEA ABB=ON  PLU=ON  L35 AND L15
L37          18 SEA ABB=ON  PLU=ON  L32 OR L36

     FILE 'REGISTRY' ENTERED AT 11:20:54 ON 26 APR 2007
L38           8 SEA ABB=ON  PLU=ON  L7 AND 1-5/SI

     FILE 'HCAPLUS' ENTERED AT 11:22:52 ON 26 APR 2007
L39          39 SEA ABB=ON  PLU=ON  L38
L40             QUE ABB=ON  PLU=ON  LUM!N? OR ELECTROLUM!N OR ORGANOLUM!N?
                OR (ELECTRO OR ORGANO OR ORG#)(2A)LUM!N? OR LIGHT?(2A)(EMIT
                ? OR EMISSION?) OR (EL OR E(W)L OR L(W)E(W)D OR OLED)/IB,AB
                 OR LED/IT
L41           2 SEA ABB=ON  PLU=ON  L39 AND L40
                E  LUMINESCENCE/CT
L42      265367 SEA ABB=ON  PLU=ON  LUMINESCENCE+PFT,NT,OLD,NEW/CT
L43           2 SEA ABB=ON  PLU=ON  L39 AND L42
                E  ELECTROLUMINESCENT DEVICES/CT
L44       57805 SEA ABB=ON  PLU=ON  "ELECTROLUMINESCENT DEVICES"+PFT,OLD,NE
                W,NT/CT
L45           3 SEA ABB=ON  PLU=ON  L39 AND L44
L46           1 SEA ABB=ON  PLU=ON  L39 AND L15
L47           7 SEA ABB=ON  PLU=ON  L39 AND L16
L48          27 SEA ABB=ON  PLU=ON  L39 AND ELECTRIC?/SC,SX
L49          29 SEA ABB=ON  PLU=ON  L41 OR L43 OR L45 OR L46 OR L47 OR L48
L50           0 SEA ABB=ON  PLU=ON  L37 AND L40
L51          16 SEA ABB=ON  PLU=ON  L18 AND L40
L52          42 SEA ABB=ON  PLU=ON  L17 AND (L40 OR L42 OR L44)
L53          42 SEA ABB=ON  PLU=ON  L51 OR L52
L54          10 SEA ABB=ON  PLU=ON  L53 AND (1840-2003)/PRY,AY,PY
L55          56 SEA ABB=ON  PLU=ON  L37 OR L49 OR L54
L56        2897 SEA ABB=ON  PLU=ON  BROWN, B?/AU
L57          31 SEA ABB=ON  PLU=ON  VERES, J?/AU
L58          23 SEA ABB=ON  PLU=ON  ANEMIAN, R?/AU
L59       10561 SEA ABB=ON  PLU=ON  WILLIAMS, R?/AU
L60          36 SEA ABB=ON  PLU=ON  OGIER, S?/AU
L61          24 SEA ABB=ON  PLU=ON  LEEMING, S?/AU
L62           4 SEA ABB=ON  PLU=ON  (L56 OR L57 OR L58 OR L59 OR L60 OR
                L61) AND L13
L63          54 SEA ABB=ON  PLU=ON  L55 NOT
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=> d que l44
L9       126358 SEA FILE=REGISTRY ABB=ON  PLU=ON  2508.17/RID
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L17         109 SEA FILE=REGISTRY ABB=ON  PLU=ON  10645.1/RID
L22          81 SEA FILE=REGISTRY ABB=ON  PLU=ON  11987.1/RID
L23      106390 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9
L24       71012 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14
L25         287 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L17
L26         145 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22
L27          42 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L25 OR L26) AND ELECTRIC?
                /SC,SX
L28        4243 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L23 OR L24) AND ELECTRIC?
                /SC,SX
L29         859 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L28 AND (SEMICONDUCT? OR
                SEMI(A)COMDUCT?)
L30         288 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L29 AND DEV/RL
L31          15 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L27 AND (SEMICONDUCT? OR
                SEMI(A)COMDUCT?)
L32         226 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L30 AND  (LAYER? OR FILM?
                OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?
                OR OVERLAID? OR MULTILAYER?)
L33         127 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L32 AND (1840-2003)/PRY,AY
                ,PY
L34        7472 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "SEMICONDUCTOR FILMS"+PFT,
                NT,NEW,OLD/CT
L35           6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND L34
L36           6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND SEMICONDUCTOR
                FILMS?
L37          50 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND ?CONDUCT?(2A)(LAYE
                R? OR FILM? OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN?
                OR OVERLAY? OR OVERLAID? OR MULTILAYER?)
L38          61 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L31 OR (L35 OR L36 OR
                L37)
L39          57 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L38 AND (1840-2003)/PRY,AY
                ,PY
L41          25 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L32 AND (ORGANIC(A)(SEMICO
                NDUCT? OR SEMI(A)CONDUCT?)(A)LAYER?)
L42          25 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L41 AND ELECTRIC?/SC,SX
L43          13 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L42 AND (1840-2003)/PRY,AY
                ,PY
L44          57 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L43 OR L39


=> d l44 1-57 ibib ed abs hitstr hitind

L44  ANSWER 1 OF 57  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2005:546963  HCAPLUS  Full-text
DOCUMENT NUMBER:          143:69946
TITLE:                    Multi-layered device and method for
                          making the same
INVENTOR(S):              Litz, Kyle Erik; Parthasarathy, Gautam
PATENT ASSIGNEE(S):       General Electric Company, USA
SOURCE:                   U.S. Pat. Appl. Publ., 13 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:
```

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005136285	A1	20050623	US 2003-742863 <--	20031223
PRIORITY APPLN. INFO.:			US 2003-742863 <--	20031223

ED Entered STN: 24 Jun 2005

AB Methods for making **multilayered** devices, especially light-emitting or photovoltaic devices, are described which entail determining a desired sequence of ≥2 polymers in the device; for each of the polymers in the desired sequence, identifying a solubility window in a solubility graph, and selecting a solvent based on the solubility window so that the solvent does not dissolve a preceding polymer in the desired sequence; depositing each of the polymers from its selected solvent; and forming a multi-**layered** device having the polymers in the desired sequence. Devices fabricated according to the methods are also described.

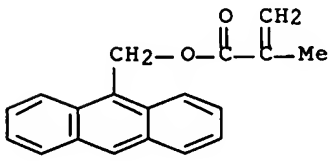
IT **33773-67-0**
(**multilayered** devices fabricated by sequential deposition of dissolved polymers and the methods of fabricating them)

RN 33773-67-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester, polymer with methyl 2-methyl-2-propenoate (CA INDEX NAME)

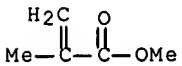
CM 1

CRN 31645-35-9
CMF C19 H16 O2



CM 2

CRN 80-62-6
CMF C5 H8 O2



IC ICM B32B009-00
ICS B05D005-12

INCL 428690000; 313504000; 427066000

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38, 73

ST electronic device multiple polymer **layer** prodn;
electroluminescent device multiple polymer **layer** prodn;
photovoltaic device multiple polymer **layer** prodn;

multilayered device fabrication sequential deposition dissolved polymer

IT Electroluminescent devices
Photoelectric devices
Semiconductor device fabrication
(**multilayered** devices fabricated by sequential deposition of dissolved polymers and the methods of fabricating them)

IT Poly(arylenealkenylenes)
(**multilayered** devices fabricated by sequential deposition of dissolved polymers and the methods of fabricating them)

IT **Semiconductor** devices
(polymer; **multilayered** devices fabricated by sequential deposition of dissolved polymers and the methods of fabricating them)

IT **33773-67-0** 95270-88-5D, Polyfluorene, derivs. 195456-48-5, ADS 329 854752-27-5, KL 22 (acrylic polymer)
(**multilayered** devices fabricated by sequential deposition of dissolved polymers and the methods of fabricating them)

L44 ANSWER 2 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:414412 HCAPLUS Full-text
DOCUMENT NUMBER: 142:474090
TITLE: Gate insulated heterojunction organic **semiconductor** field effect transistor and its manufacture
INVENTOR(S): Yan, Donghang; Zhang, Jian; Wang, Jun; Wang, Haibo; Yan, Xuanjun
PATENT ASSIGNEE(S): Changhun Institute of Applied Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 14 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1430293	A	20030716	CN 2003-102064 <--	20030130
EP 1443570	A2	20040804	EP 2003-254040 <--	20030625
EP 1443570	A3	20051109		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2004150050	A1	20040805	US 2003-614987 <--	20030709
US 6806492	B2	20041019		
JP 2004235624	A	20040819	JP 2004-3290 <--	20040108

PRIORITY APPLN. INFO.: CN 2003-102064 A 20030130 <--

ED Entered STN: 16 May 2005

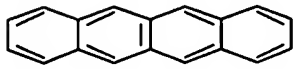
AB The organic **semiconductor** field effect transistor (FET) consists of a substrate, a gate, a gate insulator, the first **semiconductor layer**, a source/drain, and the **second semiconductor layer** in sequence. The first **semiconductor layer** is one of organic compds., and the second one is ≥2 of organic compds. The organic compound is phthalocyanin Cu, phthalocyanin Ni, phthalocyanin Zn, phthalocyanin Co, phthalocyanin Pt, phthalocyanin,

phthalocyanin titanyl, phthalocyanin vanadyl, thiophene oligomer, polythiophen, naphthacene, pentacene, pyrene, pyrenedicarboxylic anhydride, fullerene, fluorinated phthalocyanin Cu, etc.

IT **92-24-0**, Naphthacene
(gate insulated heterojunction organic **semiconductor** FET)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40

CC 76-3 (**Electric** Phenomena)

ST heterojunction field effect transistor org **semiconductor** metal phthalocyanine

IT Field effect transistors
(heterojunction; gate insulated heterojunction organic **semiconductor** FET)

IT **92-24-0**, Naphthacene 129-00-0, Pyrene, processes 135-48-8, Pentacene 147-14-8, Copper Phthalocyanine 574-93-6, Phthalocyanine 3317-67-7, Cobalt Phthalocyanine 7440-25-7, Tantalum, processes 7440-57-5, Gold, processes 13930-88-6, VanadylPhthalocyanine 14055-02-8, Nickel Phthalocyanine 14075-08-2, Platinum Phthalocyanine 14320-04-8, Zinc Phthalocyanine 14916-87-1 25233-34-5, Polythiophene 26201-32-1, TitanylPhthalocyanine 66771-41-3, Tantalum hydroxide oxide 68600-18-0, Pyrenedicarboxylic acid
(gate insulated heterojunction organic **semiconductor** FET)

L44 ANSWER 3 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:409824 HCAPLUS Full-text

DOCUMENT NUMBER: 142:440277

TITLE: Organic thin **film** transistor

INVENTOR(S): Nakamura, Hiroaki; Yamamoto, Hiroshi

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005043630	A1	20050512	WO 2004-JP16293 <--	20041027

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,

AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2005136317	A	20050526	JP 2003-372558 <--	20031031
EP 1679747	A1	20060712	EP 2004-793326 <--	20041027
R: BE, DE, FR, GB, NL				
CN 1902761	A	20070124	CN 2004-80039496 <--	20041027
PRIORITY APPLN. INFO.:			JP 2003-372558 <--	A 20031031
			WO 2004-JP16293	W 20041027

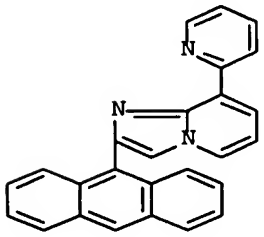
ED Entered STN: 13 May 2005

AB Disclosed is an organic thin **film** transistor wherein ≥3 terminals, a gate electrode, a source electrode and a drain electrode, an insulating **layer** and an **organic semiconductor layer** are formed on a substrate, and the current between the source and drain is controlled by applying a voltage to the gate electrode. The **organic semiconductor layer** contains a N-containing heterocyclic compound wherein a five-membered N-containing ring is condensed with a five-membered or six-membered ring in the condensed portion. Such an organic thin **film** transistor has a high response speed and a large on/off ratio.

IT **851053-44-6**
(organic TFTs with high response speed and large ON/OFF ratio)

RN 851053-44-6 HCAPLUS

CN Imidazo[1,2-a]pyridine, 2-(9-anthracenyl)-8-(2-pyridinyl)- (9CI) (CA INDEX NAME)



IC ICM H01L029-786
ICS H01L021-336; H01L051-00; C07D471-04; C07D487-04; C07D498-04; C07D519-00

CC 76-3 (**Electric** Phenomena)

ST org thin **film** transistor **semiconductor**

IT **Semiconductor films**
(organic; for organic TFTs with high response speed and large ON/OFF ratio)

IT Thin **film** transistors
(organic; organic TFTs with high response speed and large ON/OFF ratio)

IT 234-70-8, Imidazo[2,1-a]isoquinoline 274-47-5, Imidazo[1,5-a]pyridine 874-39-5 1502-46-1 2176-59-2 3323-80-6 4105-21-9 6124-13-6 13212-76-5 13212-82-3 18121-79-4 33299-27-3 38922-71-3 38922-75-7 49619-03-6 52095-58-6 58582-13-1 64270-43-5 65267-38-1 65963-94-2 65964-13-8 65964-32-1

65964-60-5 65964-65-0 73332-58-8 76435-91-1 79159-65-2
85102-26-7 88965-00-8 118000-47-8 142073-93-6 142073-96-9
240135-99-3 259193-96-9 259193-98-1 304685-49-2 307503-24-8
314257-97-1 324741-39-1 324741-46-0 324741-50-6 324741-54-0
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851053-36-6 851053-37-7 851053-38-8 851053-39-9 851053-40-2
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851053-45-7 851053-46-8 851053-47-9 851053-48-0 851053-49-1
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851053-65-1 851053-66-2 851053-67-3 851053-68-4 851053-69-5
851053-70-8 851053-71-9 851053-72-0 851053-73-1 851053-74-2
851053-75-3 851053-76-4 851053-77-5

(organic TFTs with high response speed and large ON/OFF ratio)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

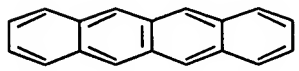
L44 ANSWER 4 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:353782 HCAPLUS Full-text
DOCUMENT NUMBER: 142:421659
TITLE: Protective **layer**-containing organic **semiconductor** field effect transistor and its manufacture
INVENTOR(S): Yan, Donghang; Yuan, Jianfeng; Yan, Xuanjun
PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1437272	A	20030820	CN 2003-105024 <--	20030303
JP 2004266267	A	20040924	JP 2004-17237 <--	20040126
KR 2004078548	A	20040910	KR 2004-8308 <--	20040209

PRIORITY APPLN. INFO.: CN 2003-105024 A 20030303 <--

ED Entered STN: 25 Apr 2005
AB The organic **semiconductor** field effect transistor consists of a substrate, a gate electrode, a gate insulating **layer** on the gate electrode, 2 **organic semiconductor layers** on the gate insulating **layer**, a protective **layer** on the **semiconductor layer**, and a source/drain. The **organic semiconductor layer** is phthalocyanine Cu, phthalocyanine Ni, phthalocyanine Zn, phthalocyanine Co, phthalocyanine Pt, phthalocyanine, phthalocyanine vanadyl, phthalocyanine titanyl, polythiophene, naphthacene, pentacene, pyrene, pyrenedicarboxylic anhydride, fullerene, fluorinated phthalocyanine Cu, fluorinated phthalocyanine Zn, fluorinated phthalocyanine Fe, and/or fluorinated phthalocyanine Co. The protective **layer** is inorg. compound, organic compound, and/or polymer.
IT **92-24-0P**, Naphthacene
(organic **semiconductor** field effect transistor containing

protective **layer**)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40
CC 76-3 (**Electric** Phenomena)
ST org **semiconductor** field effect transistor copper nickel zinc phthalocyanine; titanyl vanadyl phthalocyanine gate electrode insulator org **semiconductor**
IT Electric insulators
Field effect transistors
Semiconductor devices
Semiconductor films
(organic **semiconductor** field effect transistor containing protective **layer**)
IT Fluoropolymers, uses
Metallophthalocyanines
(organic **semiconductor** field effect transistor containing protective **layer**)
IT 147-14-8, Copper phthalocyanine
(organic **semiconductor** field effect transistor containing protective **layer**)
IT **92-24-0P**, Naphthacene 129-00-0P, Pyrene, uses 135-48-8P, Pentacene 574-93-6P, Phthalocyanine 1314-61-0P, Tantalum(V) oxide 3317-67-7P, Cobalt Phthalocyanine 7440-25-7P, Tantalum, uses 9002-89-5P, Polyvinyl alcohol 13930-88-6P, Vanadyl Phthalocyanine 14055-02-8P, Nickel Phthalocyanine 14075-08-2P, Platinum Phthalocyanine 14320-04-8P, Zinc Phthalocyanine 25233-34-5P, Polythiophene 26201-32-1P, Titanyl Phthalocyanine 76895-43-7P, 3H,5H-Pyreno[1,10-cd]pyran-3,5-dione 99685-96-8P, Fullerene
(organic **semiconductor** field effect transistor containing protective **layer**)

L44 ANSWER 5 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:324446 HCAPLUS Full-text
DOCUMENT NUMBER: 142:383879
TITLE: Organic diodes and materials
INVENTOR(S): Marrocco, Matthew L., III; Motamedi, Farshad J.
PATENT ASSIGNEE(S): Maxdem Incorporated, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005034199	A2	20050414	WO 2004-US32399 <--	20040929
WO 2005034199	A3	20070222		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 112004001858	T5	20060810	DE 2004-112004001858 <--		20040929
PRIORITY APPLN. INFO.:			US 2003-508781P	P	20031002
			US 2004-953598	A	20040928
			WO 2004-US32399	W	20040929

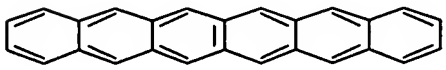
ED Entered STN: 15 Apr 2005

AB Diodes from organic **semiconductors** with slowly diffusing dopants during device lifetime are claimed. Diodes having p-type and n-type regions in contact, having at least one of either the p-type region or n-type region including a conjugated organic material doped with an immobile dopant, conjugated organic materials for incorporation into such diodes, and methods of manufacturing such diodes and materials are provided.

IT **258-31-1**, Hexacene
(organic diodes and materials with low diffusion of dopants)

RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



IC ICM H01L

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38

IT Chromophores
Coating process
Conjugation (bond)
Diodes
Dopants
Electroluminescent devices
Photoelectric devices
Printing (impact)
Printing (nonimpact)
Semiconductor devices
Transistors
Zwitterions
(organic diodes and materials with low diffusion of dopants)

IT 92-24-0, Tetracene 135-48-8, Pentacene 198-55-0, Perylene 253-82-7D, Quinazoline, polymer derivs. **258-31-1**, Hexacene 574-93-6, Phthalocyanine 588-59-0, Stilbene 5632-29-1, Tetrathiophene 5660-45-7 9003-64-9, Polyindene 9033-83-4,

Poly(phenylene) 25038-69-1, Polyphenylacetylene 25233-34-5, Polythiophene 26140-60-3, Terphenyl 27290-25-1, Polyphthalocyanine 27987-87-7, Polydiacetylene 30604-81-0, Polypyrrole 51555-21-6, Polycarbazole 88493-55-4 95270-88-5, Polyfluorene 96638-49-2, Polyphenylenevinylene 134020-79-4, Sapphyrin 134020-79-4D, Sapphyrin, polymer derivs. 189752-49-6, Texaphyrin 189752-49-6D, Texaphyrin, polymer derivs.
(organic diodes and materials with low diffusion of dopants)

L44 ANSWER 6 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:300773 HCAPLUS Full-text
DOCUMENT NUMBER: 142:381889
TITLE: Light-emitting devices with extended lifetimes employing a mixed **layer** of **semiconductor** oxide and hole-transporting material, such as an aromatic amine, and method for manufacturing the light-emitting devices
INVENTOR(S): Ikeda, Hisao; Sakata, Junichiro
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005031798	A2	20050407	WO 2004-JP14412 <--	20040924
WO 2005031798	A3	20050526		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 3748110	B1	20060222	JP 2004-276909 <--	20040924
JP 2006114521	A	20060427		
CN 1860829	A	20061108	CN 2004-80027991 <--	20040924
EP 1776846	A2	20070425	EP 2004-773500 <--	20040924
R: DE, FI, FR, GB, NL				
JP 2006114477	A	20060427	JP 2005-167991 <--	20050608

PRIORITY APPLN. INFO.:		
JP 2003-336295 <--	A	20030926
JP 2004-267426	A	20040914
JP 2004-276909	A3	20040924
WO 2004-JP14412	W	20040924

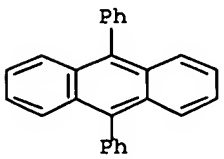
ED Entered STN: 07 Apr 2005

AB A light-emitting element is disclosed that can drive at a low driving voltage and that has a longer lifetime than the conventional light-emitting element, and which comprises a plurality of **layers** between a pair of electrodes; and at least one **layer** among the plurality of **layers** contains one compound selected from the group consisting of oxide **semiconductor** and a metal oxide, and a compound having high hole transportation properties. The lifetime of the light-emitting element can be extended because such light-emitting element can suppress the crystallization of a **layer** containing one compound selected from the group consisting of oxide **semiconductor** and a metal oxide, and a compound having high hole transportation properties. Methods for fabricating of the light-emitting devices by co-evaporation are also discussed as are display devices employing the light-emitting device.

IT **1499-10-1**, 9,10-Di(phenyl)anthracene **28351-02-2**, Diphenylanthracene
(light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)

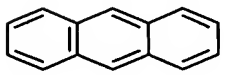
RN 1499-10-1 HCAPLUS

CN Anthracene, 9,10-diphenyl- (CA INDEX NAME)



RN 28351-02-2 HCAPLUS

CN Anthracene, diphenyl- (CA INDEX NAME)

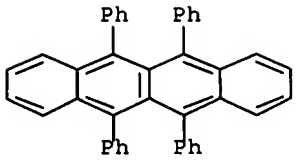


2 (D1—Ph)

IT **517-51-1**, Rubrene
(light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)

RN 517-51-1 HCAPLUS

CN Naphthacene, 5,6,11,12-tetraphenyl- (CA INDEX NAME)



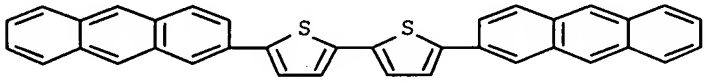
IC ICM H01L
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **76**
IT Amines, uses
(aromatic, hole-transporting material; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
IT Vapor deposition process
(co-evaporation; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
IT Electroluminescent devices
(displays; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
IT Luminescent screens
(electroluminescent; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
IT Electroluminescent devices
Semiconductor device fabrication
(light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
IT 7439-98-7, Molybdenum, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-47-3, Chromium, uses 11099-22-2 11106-92-6 12033-62-4, Tantalum nitride 25583-20-4, Titanium nitride
(electrode; light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
IT **1499-10-1**, 9,10-Di(phenyl)anthracene 2397-00-4, 4,4'-Bis(5-methylbenzoxazol-2-yl)stilbene 7631-86-9, Silica, uses **28351-02-2**, Diphenylanthracene 135700-84-4 155306-71-1, Coumarin 545T 276856-29-2
(light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
IT 7439-93-2, Lithium, uses
(light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)

IT **517-51-1**, Rubrene 38215-36-0, Coumarin 6
(light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)
IT 1313-27-5, Molybdenum oxide (MoO3), properties 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl 199121-98-7
(light-emitting devices with extended lifetimes employing mixed **layer** of **semiconductor** oxide and hole-transporting material and method for manufacturing light-emitting devices)

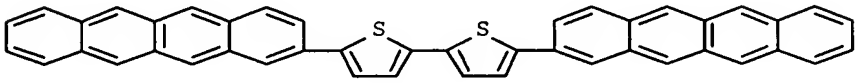
L44 ANSWER 7 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:140442 HCAPLUS Full-text
DOCUMENT NUMBER: 142:252284
TITLE: Acene-thiophene **semiconductors** for use in thin **film** transistors
INVENTOR(S): Gerlach, Christopher P.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005035333	A1	20050217	US 2003-641730 <--	20030815
US 6998068	B2	20060214		
WO 2005019198	A1	20050303	WO 2004-US20349 <--	20040625
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1654248	A1	20060510	EP 2004-756064 <--	20040625
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1835941	A	20060920	CN 2004-80023410 <--	20040625
JP 2007502812	T	20070215	JP 2006-523834 <--	20040625
US 2006033086	A1	20060216	US 2005-256281 <--	20051020
PRIORITY APPLN. INFO.:			US 2003-641730 A <--	20030815
			WO 2004-US20349 W	20040625

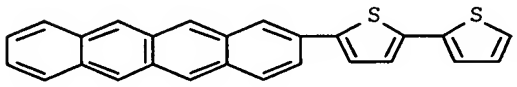
OTHER SOURCE(S): MARPAT 142:252284
ED Entered STN: 18 Feb 2005
AB This invention relates to organic compds. that are useful as **semiconductors** and, in another aspect, to devices comprising the compds., and to methods of preparing devices comprising the compds. Acene-thiophene compds. are disclosed that are useful as organic **semiconductors**. The compds., when used as the **semiconductor layer** in organic thin-**film** transistors exhibit device characteristics, like charge-carrier mobilities and current on/off ratios, that are comparable to those of pentacene. Also described are **semiconductor** devices comprising at least one compound of the invention; and articles comprising the **semiconductor** devices such as thin **film** transistors or transistor arrays, and electroluminescent lamps.
IT **844633-95-0P 844633-96-1P 844633-97-2P**
844633-98-3P 844633-99-4P 844634-00-0P
844634-01-1P
(acene-thiophene **semiconductors** for use in thin **film** transistors)
RN 844633-95-0 HCAPLUS
CN 2,2'-Bithiophene, 5,5'-di-2-anthracenyl- (9CI) (CA INDEX NAME)



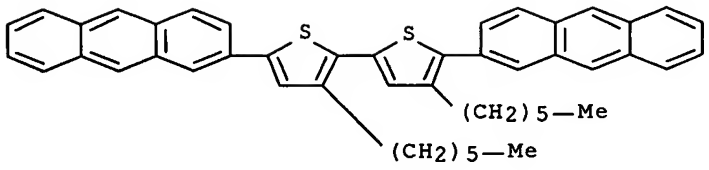
RN 844633-96-1 HCAPLUS
CN 2,2'-Bithiophene, 5,5'-di-2-naphthacenyl- (9CI) (CA INDEX NAME)



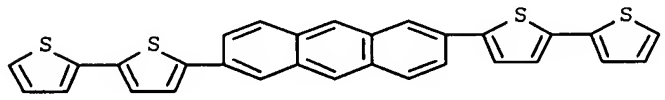
RN 844633-97-2 HCAPLUS
CN 2,2'-Bithiophene, 5-(2-naphthacenyl)- (9CI) (CA INDEX NAME)



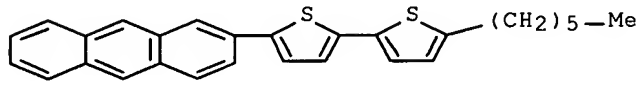
RN 844633-98-3 HCAPLUS
CN 2,2'-Bithiophene, 5,5'-di-2-anthracenyl-3,4'-dihexyl- (9CI) (CA INDEX NAME)



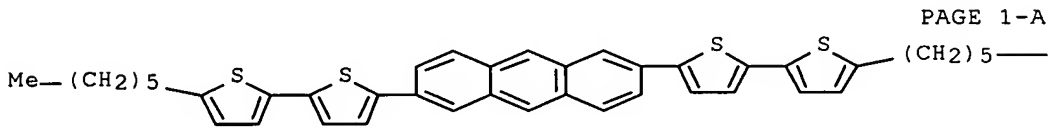
RN 844633-99-4 HCAPLUS
CN 2,2'-Bithiophene, 5,5'-(2,6-anthracenediyl)bis- (9CI) (CA INDEX NAME)



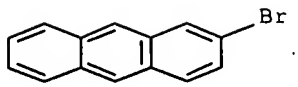
RN 844634-00-0 HCAPLUS
CN 2,2'-Bithiophene, 5-(2-anthracenyl)-5'-hexyl- (9CI) (CA INDEX NAME)



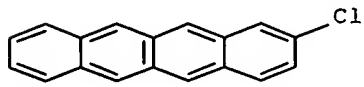
RN 844634-01-1 HCAPLUS
CN 2,2'-Bithiophene, 5,5'-(2,6-anthracenediyl)bis[5'-hexyl- (9CI) (CA INDEX NAME)



IT **7321-27-9P**, 2-Bromoanthracene **62775-17-1P**
(acene-thiophene **semiconductors** for use in thin **film** transistors)
RN 7321-27-9 HCAPLUS
CN Anthracene, 2-bromo- (CA INDEX NAME)



RN 62775-17-1 HCAPLUS
CN Naphthacene, 2-chloro- (7CI, 9CI) (CA INDEX NAME)



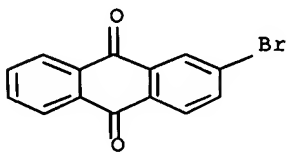
IC ICM H01B001-00
INCL 252500000
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 27, 73
ST polyacene polythiophene thin **film** transistor **semiconductor** device fabrication
IT Dielectric **films**
Electroluminescent devices
Gate contacts
Self-assembled monolayers
(acene-thiophene **semiconductors** for use in thin **film** transistors)
IT Polysiloxanes, uses
(acene-thiophene **semiconductors** for use in thin **film** transistors)
IT Polyacenes
(acene-thiophene **semiconductors** for use in thin **film** transistors)
IT Thin **film** transistors
(organic; acene-thiophene **semiconductors** for use in thin **film** transistors)
IT Conducting polymers
(polythiophenes; acene-thiophene **semiconductors** for use in thin **film** transistors)
IT **844633-95-0P 844633-96-1P 844633-97-2P 844633-98-3P 844633-99-4P 844634-00-0P 844634-01-1P**
(acene-thiophene **semiconductors** for use in thin **film** transistors)
IT **7321-27-9P**, 2-Bromoanthracene **62775-17-1P**
844633-94-9P
(acene-thiophene **semiconductors** for use in thin **film** transistors)
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 8 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:57981 HCAPLUS Full-text
DOCUMENT NUMBER: 142:146457
TITLE: Bis(2-acenyl)acetylene **semiconductors**

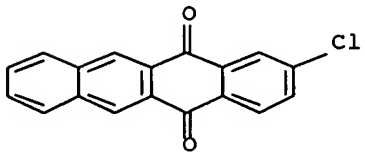
INVENTOR(S): Gerlach, Christopher P.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005012090	A1	20050120	US 2003-620027 <--	20030715
US 7109519	B2	20060919		
WO 2005014511	A1	20050217	WO 2004-US17108 <--	20040602
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1654207	A1	20060510	EP 2004-753848 <--	20040602
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1823027	A	20060823	CN 2004-80020332 <--	20040602
PRIORITY APPLN. INFO.:			US 2003-620027 A <--	20030715
			WO 2004-US17108 W	20040602

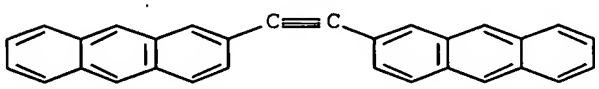
OTHER SOURCE(S): MARPAT 142:146457
ED Entered STN: 21 Jan 2005
AB Bis(2-acenyl)acetylene compds. that are useful as stable and reproducible organic **semiconductors** are disclosed. The compds., when used as the active **layer** in OTFTs exhibit device characteristics, like charge-carrier mobilities and current on/off ratios, that are comparable to those of pentacene. Also described are **semiconductor** devices comprising at least one compound of the invention; and articles comprising the **semiconductor** devices such as thin **film** transistors or transistor arrays, and electroluminescent lamps.
IT **572-83-8**, 2-Bromoanthraquinone
(in preparation of bromoanthracene)
RN 572-83-8 HCAPLUS
CN 9,10-Anthracenedione, 2-bromo- (CA INDEX NAME)



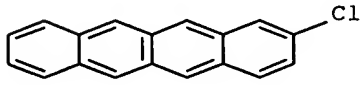
IT **85600-52-8**, 2-Chloro-5,12-tetracenequinone
(in preparation of chlorotetracene)
RN 85600-52-8 HCAPLUS
CN 5,12-Naphthacenedione, 2-chloro- (9CI) (CA INDEX NAME)



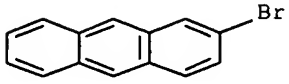
IT **827345-90-4P**
(preparation and properties of)
RN 827345-90-4 HCAPLUS
CN Anthracene, 2,2'-(1,2-ethynediyl)bis- (9CI) (CA INDEX NAME)



IT **62775-17-1P**, 2-Chlorotetracene
(preparation and reactions of)
RN 62775-17-1 HCAPLUS
CN Naphthacene, 2-chloro- (7CI, 9CI) (CA INDEX NAME)



IT **7321-27-9P**, 2-Bromoanthracene
(preparation and reactions of)
RN 7321-27-9 HCAPLUS
CN Anthracene, 2-bromo- (CA INDEX NAME)



IC ICM H01L035-24
ICS C07C013-465; C07C050-16
INCL 257040000; 552271000; 585026000

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 24
ST acenylacetylene **semiconductor** compd device
IT **Semiconductor films**
Semiconductor materials
Thin **film** transistors
Transistors
(bis(2-acenyl)acetylene **semiconductors** and devices)
IT Electric lamps
(electroluminescent; bis(2-acenyl)acetylene **semiconductors** and devices)
IT Self-assembled monolayers
(for bis(acenyl)acetylene **film** devices)
IT Polysiloxanes, uses
(for bis(acenyl)acetylene **film** devices)
IT Electroluminescent devices
(lamps; bis(2-acenyl)acetylene **semiconductors** and devices)
IT Polymers, uses
(nonfluorinated; for bis(acenyl)acetylene **film** devices)
IT 4721-17-9 4721-24-8 4724-48-5 31900-57-9, Poly(dimethylsiloxane) 156048-34-9, Poly(dimethylsiloxane-co-diphenylsiloxane) 156048-35-0, Poly(dimethylsiloxane-co-methylphenylsiloxane) 164662-84-4, Poly(methylphenylsiloxane-co-diphenylsiloxane) 445388-37-4
(for bis(acenyl)acetylene **film** devices)
IT **572-83-8**, 2-Bromoanthraquinone
(in preparation of bromoanthracene)
IT **85600-52-8**, 2-Chloro-5,12-tetracenequinone
(in preparation of chlorotetracene)
IT **827345-90-4P**
(preparation and properties of)
IT **62775-17-1P**, 2-Chlorotetracene
(preparation and reactions of)
IT **7321-27-9P**, 2-Bromoanthracene
(preparation and reactions of)
IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 25014-31-7, Poly(α-methylstyrene)
(properties of bis(anthracenyl)acetylene **films** on substrates of)
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 9 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:16045 HCAPLUS Full-text
DOCUMENT NUMBER: 142:125114
TITLE: Compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure
INVENTOR(S): Halik, Marcus; Schmid, Guenter; Klauk, Hagen; Zschieschang, Ute
PATENT ASSIGNEE(S): Infineon Technologies A.-G., Germany
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005001952	A1	20050106	WO 2004-DE1342 <--	20040623

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10329247	A1	20050127	DE 2003-10329247 <--	20030624

PRIORITY APPLN. INFO.: DE 2003-10329247 A 20030624 <--

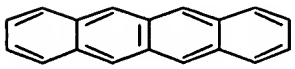
ED Entered STN: 07 Jan 2005

AB The invention relates to a compound for forming a self-assembled monolayer, particularly for forming a **layer** structure for an organic field effect transistor. The inventive compound is characterized by: (1) at least one anchor group for binding the mol. to a substrate, particularly an electrode material; (2) at least one dielec. group; and (3) at least one **semiconducting** group. The invention also relates to a **layer** structure made of the compound, to a **semiconductor** element, and to a method for producing the **layer** structure. This makes it possible to facilitate the production of **semiconductor** components, particularly those for organic field effect transistors.

IT **92-24-0D**, Tetracene, derivs.
(**semiconductive** group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38

IT Silanes
(alkoxy, monolayer anchor group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT Electric contacts
Electric insulators
Gate contacts
Glass substrates
Self-assembled monolayers

Semiconductor device fabrication
(compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT Oxides (inorganic), uses
(contact material; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT Paper
(device substrate; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT Amides, uses
Amines, uses
Phosphines
Thiols, uses
(monolayer anchor group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT Field effect transistors
(organic; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT Conducting polymers
(polythiophenes, **semiconductive** group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT Plastics, uses
(substrate; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT 1344-28-1, Alumina, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-32-6, Titanium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 13463-67-7, Titania, uses
(contact material; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT 9003-01-4D, Polyacrylic acid, derivs. 25087-26-7D, Polymethacrylic acid, derivs.
(crosslinking group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT 10025-78-2, Trichlorosilane
(monolayer anchor group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT **92-24-0D**, Tetracene, derivs. 135-48-8D, Pentacene, derivs.
(**semiconductive** group; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

IT 7440-21-3, Silicon, uses
(substrate; compound for forming a self-assembled monolayer, a **layer** structure, a **semiconductor** element, and a method for producing a **layer** structure)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

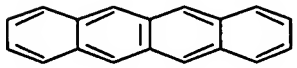
L44 ANSWER 10 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1156715 HCAPLUS Full-text
DOCUMENT NUMBER: 142:84541
TITLE: Compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure
INVENTOR(S): Schmid, Guenter; Halik, Marcus; Klauk, Hagen; Zschieschang, Ute; Effenberger, Franz; Schuetz, Markus; Maisch, Steffen; Seifritz, Steffen; Buckel, Frank
PATENT ASSIGNEE(S): Infineon Technologies AG, Germany
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004114371	A2	20041229	WO 2004-DE1318 <--	20040618
WO 2004114371	A3	20050331		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10328811	A1	20050127	DE 2003-10328811 <--	20030620
DE 10328811	B4	20051229		
EP 1636826	A2	20060322	EP 2004-738767 <--	20040618
R: DE, FR, GB, IT, IE				
CN 1809580	A	20060726	CN 2004-80017305 <--	20040618
US 2006175603	A1	20060810	US 2005-313250 <--	20051220
PRIORITY APPLN. INFO.:			DE 2003-10328811 A <--	20030620
			WO 2004-DE1318 W	20040618

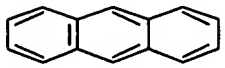
ED Entered STN: 30 Dec 2004
AB The invention relates to a compound used to form a self-assembled monolayer, especially a monolayer for a **semiconductor** component, the compound being characterized by a mol. group able to carry out a Π-Π interaction with other similar compds. and/or other different compds. for the stabilization of the monolayer. The invention also relates to a **layer** structure, a **semiconductor** component, and a method for producing a **layer** structure. In this way, a **semiconductor** component, especially an organic field-effect transistor, can be efficiently produced.
IT **92-24-0DP**, Naphthacene, derivs. **120-12-7DP**,

Anthracene, derivs.
(self-assembled monolayer; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



IC ICM H01L021-00
CC 76-3 (**Electric** Phenomena)
ST self assembled monolayer field effect transistor **semiconductor** device fabrication
IT Silanes
(alkoxy, anchor group; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)
IT Silanes
(anchor group; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)
IT Dielectric **films**
Self-assembled monolayers
Semiconductor device fabrication
(compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)
IT Field effect transistors
(organic; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)
IT 4109-96-0, Dichlorosilane 10025-78-2, Trichlorosilane 13465-78-6, Chlorosilane
(anchor group; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)
IT 91-22-5, Quinoline, uses 95-15-8, Benzo[b]thiophene 95-16-9,

Benzothiazole 108-97-4, γ-Pyrone 109-97-7, Pyrrol 110-00-9, Furan 110-02-1, Thiophene 110-86-1, Pyridine, uses 119-65-3, Isoquinoline 120-72-9, Indole, uses 270-68-8, 2H-Isoindole 271-89-6, Benzo[b]furan 288-13-1, Pyrazole 288-14-2, Isoxazole 288-16-4, Isothiazole 288-32-4, Imidazole, uses 288-42-6, Oxazole 288-47-1, Thiazole 289-67-8, Pyrylium 289-95-2, Pyrimidine 290-37-9, Pyrazine 504-31-4, α-Pyrone
(self-assembled monolayer; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

IT 91-20-3DP, Naphthalene, derivs. **92-24-0DP**, Naphthacene, derivs. 92-52-4DP, Biphenyl, derivs. **120-12-7DP**, Anthracene, derivs. 135-48-8DP, Pentacene, derivs. 26140-60-3DP, Terphenyl, derivs. 29036-02-0DP, Quaterphenyl, derivs. 61537-20-0DP, Quinquephenyl, derivs.
(self-assembled monolayer; compound used to form a self-assembled monolayer, **layer** structure, **semiconductor** component having a **layer** structure, and method for producing a **layer** structure)

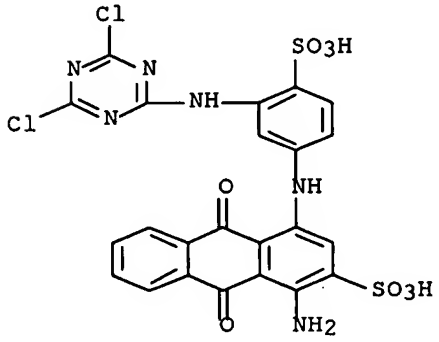
L44 ANSWER 11 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1048205 HCAPLUS Full-text
DOCUMENT NUMBER: 142:46028
TITLE: Thin **film** transistor and display device fabrication
INVENTOR(S): Ando, Masahiko; Wakagi, Masatoshi; Sasaki, Hiroshi
PATENT ASSIGNEE(S): Hitachi Ltd., Japan
SOURCE: U.S., 24 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6828582	B1	20041207	US 2004-786888 <--	20040225
JP 2005079560	A	20050324	JP 2003-312080 <--	20030904
US 2005051780	A1	20050310	US 2004-970224 <--	20041021
US 7202496	B2	20070410		

PRIORITY APPLN. INFO.: JP 2003-312080 A 20030904 <-- US 2004-786888 A1 20040225

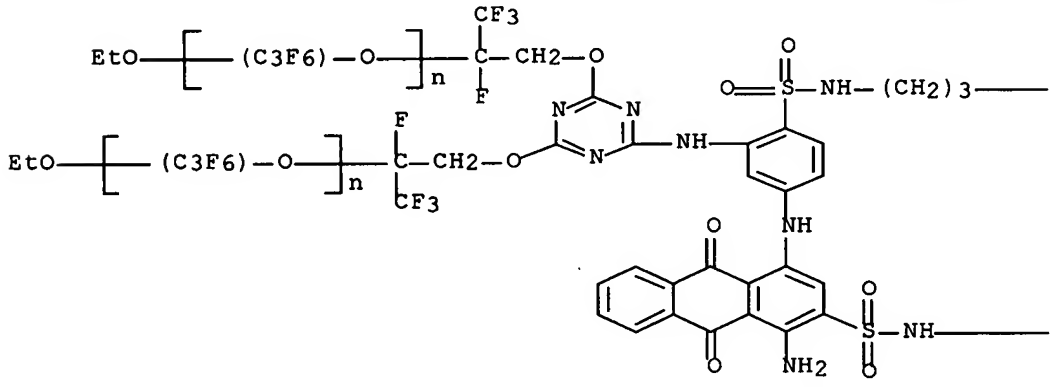
ED Entered STN: 07 Dec 2004
AB The present method prevents malfunctions in switching caused by a light leakage current in an active matrix type thin **film** transistor substrate for a liquid crystal display and prevents display failures, by selectively disposing a self-assembled monolayer **film** in a gate electrode-projected region of the surface of an insulator **film** with high definition, and by selectively improving the orientation order of an organic **semiconductor film** only in the gate electrode-projected region without improving the order at an irradiated portion with light outside the gate electrode-projected region.
IT **13324-20-4**, Mikacion brilliant blue RS
(Mikacion brilliant blue RS; thin **film** transistor and display device fabrication)

RN 13324-20-4 HCAPLUS
CN 2-Anthracenesulfonic acid, 1-amino-4-[[3-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]-4-sulfophenyl]amino]-9,10-dihydro-9,10-dioxo- (CA INDEX NAME)

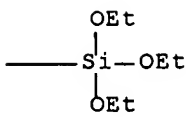


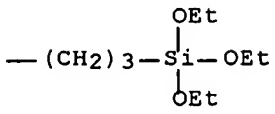
IT **803732-65-2**
(thin **film** transistor and display device fabrication)
RN 803732-65-2 HCAPLUS
CN Poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]], α,α'-[[6-[[5-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazine-2,4-diyl]bis[oxy[1-fluoro-1-(trifluoromethyl)-2,1-ethanediyl]]]bis[ω-[tetrafluoro(trifluoromethyl)ethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A

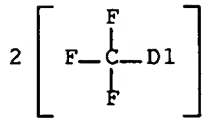


PAGE 1-B





PAGE 2-A



8 (D1—F)

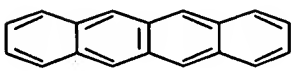
IC ICM H01L035-24
ICS H01L051-00; H01L029-04; H01L031-036; H01L031-0376
INCL 257040000; 257059000; 257072000; 257350000
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): **76**
ST thin **film** transistor display device fabrication selfassembled monolayer
IT Liquid crystal displays
Self-assembled monolayers
Thin **film** transistors
(thin **film** transistor and display device fabrication)
IT 6539-67-9, C.I. Reactive Yellow 3
(C.I. Reactive Yellow 3; thin **film** transistor and display device fabrication)
IT 163702-05-4
(HFE-7200; thin **film** transistor and display device fabrication)
IT 90317-74-1, Krytox 157FS-L
(Krytox 157FS-L; thin **film** transistor and display device fabrication)
IT **13324-20-4**, Mikacion brilliant blue RS
(Mikacion brilliant blue RS; thin **film** transistor and display device fabrication)
IT 307-34-6, PF-5080
(PF-5080; thin **film** transistor and display device

fabrication)
IT 919-30-2, Sila-Ace S330
(Sila-Ace S330; thin **film** transistor and display device fabrication)
IT 690268-79-2 **803732-65-2**
(thin **film** transistor and display device fabrication)
IT 126066-30-6P 803732-66-3P
(thin **film** transistor and display device fabrication)
IT 538-75-0
(thin **film** transistor and display device fabrication)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 12 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1045674 HCAPLUS Full-text
DOCUMENT NUMBER: 142:289317
TITLE: Organic **semiconductor** of two or more of organic substances and its processing method
INVENTOR(S): Yan, Donghang; Zhang, Jian; Wang, Haibo
PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1471182	A	20040128	CN 2003-145054 <--	20030617
PRIORITY APPLN. INFO.:			CN 2003-145054 <--	20030617

ED Entered STN: 07 Dec 2004
AB The organic **semiconductor** is prepared by co-crystallization, mixing, or **lamination** from ≥2 kinds of phthalocyanine Cu (Ni, Zn, Co, or Pt), phthalocyanine, phthalocyanine Ti (or V) oxide, phthalocyanine V oxide, oligomer or polymer of thiophene, tetracene, pentacene, pyrene, pyrenedicarboxylic anhydride, fullerene, and fluorinated phthalocyanine Cu (Zn, Fe, or Co). The mobility rate of current carrier and the switch current ratio of the field-effect transistor manufactured with the organic **semiconductor** as active **layer** are >10-3 cm2 V-1 s-1 and >103, resp.
IT **92-24-0**, Tetracene
(organic **semiconductor** of two or more organic substances)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



IC ICM H01L051-30
CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 78
ST org **semiconductor** field effect transistor phthalocyanine current carrier; polythiophene tetracene pentacene pyrene fullerene gold phthalocyanine **semiconductor**
IT Crystallization
Electric current carriers
Field effect transistors
Semiconductor materials
(organic **semiconductor** of two or more organic substances)
IT 132-16-1D, Iron (II) phthalocyanine, fluorinated 574-93-6, Phthalocyanine 3317-67-7, Phthalocyanine cobalt 13930-88-6, Vanadyl phthalocyanine 14055-02-8 14075-08-2 14320-04-8, Zinc phthalocyanine 14320-04-8D, fluorinated 26201-32-1, Titanyl phthalocyanine
(organic **semiconductor** of two or more organic substances)
IT **92-24-0**, Tetracene 129-00-0, Pyrene, uses 135-48-8, Pentacene 147-14-8, Copper (II)phthalocyanine 147-14-8D, fluorinated 7440-25-7, Tantalum, uses 7440-57-5, Gold, uses 25233-34-5, Polythiophene 76895-43-7, 3H,5H-Pyreno[1,10-cd]pyran-3,5-dione 99685-96-8, Fullerene
(organic **semiconductor** of two or more organic substances)

L44 ANSWER 13 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:905274 HCAPLUS Full-text
DOCUMENT NUMBER: 141:404357
TITLE: Aryl amine polymer, thin **film** transistor using the aryl amine polymer, and method of manufacturing the thin **film** transistor
INVENTOR(S): Sagisaka, Toshiya; Sasaki, Masaomi; Torii, Masafumi; Kawamura, Shinichi; Okada, Takashi; Nakayama, Yoshinobu; Akiyama, Yoshikazu; Kondoh, Hitoshi; Tomono, Hidenori; Yamaga, Takumi
PATENT ASSIGNEE(S): Ricoh Company, Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 55 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004212042	A1	20041028	US 2004-777095 <--	20040213
US 7166689	B2	20070123		
JP 2005154709	A	20050616	JP 2004-24878 <--	20040130
JP 2005213228	A	20050811	JP 2004-24867	20040130
JP 2005101493	A	20050414	JP 2004-27234 <--	20040203
JP 2005240001	A	20050908	JP 2004-174088 <--	20040611
US 2007092760	A1	20070426	US 2006-566728 <--	20061205
PRIORITY APPLN. INFO.:			JP 2003-35582 A <--	20030213
			JP 2003-185402 A <--	20030627
			JP 2003-307561 A <--	20030829

JP 2003-373723 <--	A	20031031
JP 2004-24866	A	20040130
JP 2004-24867	A	20040130
JP 2004-24878	A	20040130
JP 2004-27234	A	20040203
US 2004-777095	A3	20040213

ED Entered STN: 29 Oct 2004

AB Polymers are described which comprise a repeat unit represented by -(-Ar2-N(Ar1)-Ar3-CH:CH-Ar4-CH:CH-)- (Ar1 = (un)substituted aromatic hydrocarbon group ; Ar2 and Ar3 = independently selected divalent aromatic hydrocarbons selected from (un)substituted monocyclic aromatic hydrocarbons, (un)substituted non-condensed polycyclic aromatic hydrocarbons and (un)substituted condensed polycyclic aromatic hydrocarbons; and Ar4 = a bivalent group of benzene, thiophene, biphenyl, or anthracene, each of which can optionally have a substituent). Organic thin **film** transistors are also described which comprise including a substrate, an **organic semiconductor layer** which contains a polymer as described above and is located overlying the substrate, an electrode pair of a source electrode and a drain electrode; and a third electrode. Methods of manufacturing organic thin-**film** transistors are described which entail applying a solution comprising a solvent and the polymer to the substrate; and drying the applied solution to form an organic **layer** on the substrate.

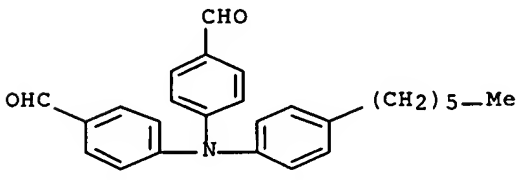
IT **785808-19-7DP**, phenyl- terminated **785808-34-6P**
(aryl amine polymers and thin-**film** transistors using them and methods of manufacturing the transistors)

RN 785808-19-7 HCAPLUS

CN Phosphonic acid, [9,10-anthracenediylbis(methylene)]bis-, tetraethyl ester, polymer with 4,4'-[(4-hexylphenyl)imino]bis[benzaldehyde] (9CI) (CA INDEX NAME)

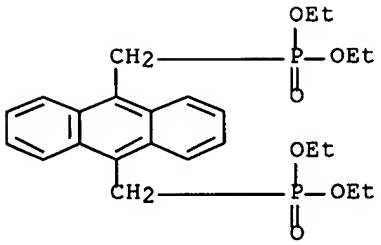
CM 1

CRN 785808-12-0
CMF C26 H27 N O2



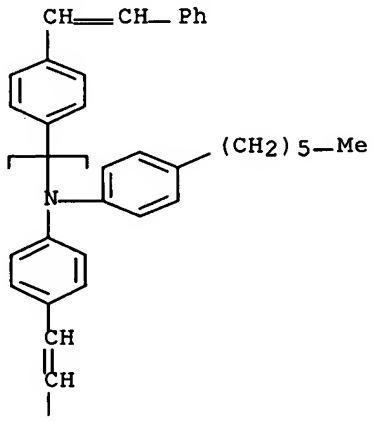
CM 2

CRN 60974-92-7
CMF C24 H32 O6 P2

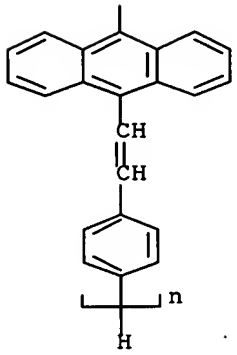


RN 785808-34-6 HCAPLUS
CN Poly[[(4-hexylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-9,10-anthracenediyl-1,2-ethenediyl-1,4-phenylene], α-[4-(2-phenylethenyl)phenyl]-ω-hydro- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM H01L029-72
ICS C08G083-00
INCL 257552000; X52-553.4
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38
ST aryl amine polymer thin **film** transistor fabrication
IT **Semiconductor** device fabrication
Semiconductor materials
(aryl amine polymers and thin-**film** transistors using them and methods of manufacturing the transistors)
IT Polyamines
(aryl amine polymers and thin-**film** transistors using them and methods of manufacturing the transistors)
IT Thin **film** transistors
(organic; aryl amine polymers and thin-**film** transistors using them and methods of manufacturing the transistors)
IT , 645396-20-9DP, phenyl- terminated 645396-21-0DP, phenyl-terminated 645396-23-2DP, phenyl- terminated 785808-10-8DP, phenyl- terminated 785808-11-9DP, benzaldehyde-terminated 785808-13-1DP, phenyl-terminated 785808-15-3DP, phenyl- terminated 785808-16-4DP, phenyl- terminated 785808-17-5DP, phenyl- terminated 785808-18-6DP, phenyl- terminated **785808-19-7DP**, phenyl-terminated 785808-20-0DP, phenyl- terminated 785808-22-2DP, phenyl- terminated 785808-23-3DP, phenyl- terminated 785808-24-4DP, phenyl- terminated 785808-25-5DP, phenyl- terminated 785808-27-7DP, phenyl- terminated 785808-29-9DP, phenyl- terminated 785808-31-3DP, phenyl- terminated 785808-32-4P 785808-33-5P **785808-34-6P** 785808-35-7P 785808-36-8P 785828-74-2P 785828-75-3P 785831-97-2P 785833-67-2P 785834-13-1P 785834-16-4P 785834-17-5P 785834-19-7P 785834-25-5P 785834-26-6P 785834-28-8P 785834-29-9P 785834-44-8P 785834-51-7P
(aryl amine polymers and thin-**film** transistors using them and methods of manufacturing the transistors)
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 14 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:857503 HCAPLUS Full-text
DOCUMENT NUMBER: 141:359265
TITLE: Processes and donor elements for transferring thermally sensitive materials to substrates
INVENTOR(S): Fincher, Graciela Blanchet
PATENT ASSIGNEE(S): E.I. Dupont De Nemours and Company, USA
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004087434	A1	20041014	WO 2004-US9187 <--	20040325

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,

KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,
DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG

EP 1606120	A1	20051221	EP 2004-758354 <--	20040325
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
CN 1764551	A	20060426	CN 2004-80008332 <--	20040325
JP 2006524916	T	20061102	JP 2006-509301 <--	20040325
PRIORITY APPLN. INFO.:			US 2003-458058P <--	P 20030327
			WO 2004-US9187	W 20040325

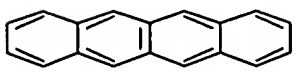
ED Entered STN: 18 Oct 2004

AB Methods of forming a patterned **semiconducting**-dielec. material on a substrate by thermal processes are disclosed, comprising heating a thermally imageable donor element comprising a substrate and a transfer **layer** of **semiconductive** material in conjunction with a dielec. The donor is exposed with the pos. image of the desired pattern to be formed on the receiver, such that the exposed portions of the **layer** of **semiconductive** and dielec. material are simultaneously transferred, forming the desired pattern of **semiconductive** and dielec. material on the receiver. The **semiconducting** material can be patterned to form a thin **film** transistor. The method can also be used to pattern a light-emitting polymer or small mol. in conjunction with the charge injection **layer** to form the light-emitting display for light-sensitive organic electronic devices. Donor elements for use in the process are also disclosed. Methods for forming thin **film** transistors and donor elements for use in the processes, are also disclosed.

IT **92-24-0**, Tetracene
(thermally sensitive material; processes and donor elements for transferring thermally sensitive materials to substrates)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



IC ICM B41M005-38
ICS B41M005-40; H01L051-56

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 73

ST thermally sensitive material transfer; patterned **semiconducting** dielec material thermal imaging; polymer LED fabrication; TFT fabrication

IT Dyes
(IR-absorbing, donor element ejection **layer**; processes

and donor elements for transferring thermally sensitive materials to substrates)

IT Fluoropolymers, uses
Silsesquioxanes
(donor element protective **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)

IT Thin **film** transistors
(method of forming)

IT Polyesters, uses
(receiver element adhesive **layer**, substrate of donor- and receiver element; processes and donor elements for transferring thermally sensitive materials to substrates)

IT Polycarbonates, uses
Polyurethanes, uses
(receiver element adhesive **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)

IT 9002-86-2, Polyvinyl chloride 9002-86-2D, Polyvinyl chloride, chlorinated 9004-70-0, Nitrocellulose 9011-14-7, Polymethyl methacrylate 9011-14-7D, Polymethyl methacrylate, copolymers 88878-49-3 128433-68-1 162411-28-1
(donor element ejection **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)

IT 7429-90-5, Aluminum, uses 7440-02-0, Nickel, uses 7440-47-3, Chromium, uses
(donor element heating **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)

IT 9003-47-8, Polyvinylpyridine 59269-51-1, Polyhydroxystyrene
(donor element protective **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)

IT 9003-54-7, Acrylonitrile Styrene copolymer 24980-41-4, Poly(caprolactone) 25085-46-5 25087-26-7, PolyMethacrylic acid 25248-42-4, Poly(caprolactone)
(receiver element adhesive **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)

IT 50926-11-9, Indium tin oxide
(receiver element anode **layer**; processes and donor elements for transferring thermally sensitive materials to substrates)

IT **92-24-0**, Tetracene 95-15-8D, Benzothiophene, dimers 135-48-8, Pentacene 66280-99-7, Polythienylenevinylene 88493-55-4, Sexithiophene
(thermally sensitive material; processes and donor elements for transferring thermally sensitive materials to substrates)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 15 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:842951 HCAPLUS Full-text
DOCUMENT NUMBER: 141:359045
TITLE: Organic super lattice thin **film** for **semiconductor** device
INVENTOR(S): Nishino, Fumiaki; Kuwahara, Masahiro; Nishiyama, Shinichi

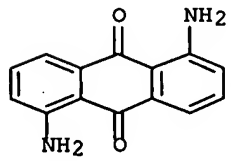
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004289146	A	20041014	JP 2004-61657 <--	20040305
PRIORITY APPLN. INFO.:			JP 2003-60368 <--	A 20030306

ED Entered STN: 15 Oct 2004
AB The method is suited for production of super lattice thin **film** having high carrier mobility. The thin **film** consists of ≥2 **layers** of 2 kinds of organic thin **films** of 0.5-100 nm in thickness. The basic skeleton of the organic thin **film** mols. is a π conjugated polymer. The precursor monomer of the thin **film** is different from that of the adjacent organic thin **film**.
IT **111641-58-8**, Poly(1,5-diaminoanthraquinone)
(organic super lattice thin **film** for **semiconductor** device)
RN 111641-58-8 HCAPLUS
CN 9,10-Anthracenedione, 1,5-diamino-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 129-44-2
CMF C14 H10 N2 O2



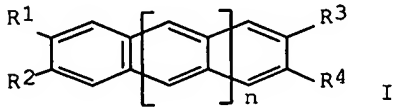
IC ICM H01L051-00
ICS C08G061-12; H01L029-786; H01L033-00; H05B033-14
CC 76-2 (**Electric** Phenomena)
Section cross-reference(s): 36
ST org super lattice thin **film semiconductor** device
IT **Films**
Semiconductor devices
(organic super lattice thin **film** for **semiconductor** device)
IT Polymers, uses
(organic super lattice thin **film** for **semiconductor** device)
IT 50926-11-9, ITO
(organic super lattice thin **film** for **semiconductor** device)
IT 15082-28-7, 2-(4-Biphenylyl)-5-(4-tert-butylphenyl)-1, 3, 4-oxadiazole 27176-87-0, n-Dodecyl benzene sulfonic acid 30604-81-0, PolyPyrrole 50851-57-5, Polystyrenesulfonic acid 84928-92-7D, Poly-(3-methyl

thiophene), perchloric acid doped 104934-51-2, Poly(3-n-octylthiophene) **111641-58-8**, Poly(1,5-diaminoanthraquinone) 126213-51-2
(organic super lattice thin **film** for **semiconductor** device)

L44 ANSWER 16 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:756341 HCAPLUS Full-text
DOCUMENT NUMBER: 141:287033
TITLE: **Semiconductive** polyacene compounds, preparation of polyacene compounds, and fabrication of organic **semiconductor** devices
INVENTOR(S): Narita, Yoshitoku; Yakeyama, Masatoshi; Osada, Kazuto; Natsume, Minoru
PATENT ASSIGNEE(S): Asahi Kasei Corporation, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004256532	A	20040916	JP 2004-29701 <--	20040205
PRIORITY APPLN. INFO.:			JP 2003-28704 A <--	20030205

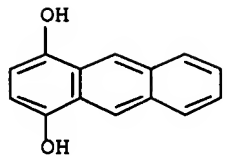
OTHER SOURCE(S): MARPAT 141:287033
ED Entered STN: 16 Sep 2004
GI



I

AB The title **semiconductor** materials are crystalline polyacenes (I; R1-4 = H, alkyl, alkenyl, alkynyl, aromatic hydrocarbon group, alkoxyl, ether, acyl, ester, carboxyl, formyl, halo, amino, imino, amide, cyan, silyl, mercapto, sulfide, disulfide, sulfonyl; n = 2-7). The title fabrication of transistors involves vapor deposition of a 2,3,9,10-tetramethylpentacene thin **film** (**film** thickness 80 nm) over patterned Au source/drain electrodes on a Si substrate. The **semiconductor** materials give high electron mobility, have high solvent solubility, and provide excellent electronic characteristics.

IT **7218-35-1**, 1,4-Dihydroxyanthracene
(**semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
RN 7218-35-1 HCAPLUS
CN 1,4-Anthracenediol (CA INDEX NAME)



IC ICM C07C015-20
ICS C07C001-22; C07C050-22; H01L029-786; H01L051-00
CC 76-2 (**Electric** Phenomena)
Section cross-reference(s): 38
ST polyacene **semiconductor** prepn org **semiconductor** device transistor
IT Electric current-potential relationship
(gate coltage-drain current; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT Solubility
(high, in solvent; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT Electron mobility
(high; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT Transistors
(organic **semiconductor**; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT Polyacenes
(organic **semiconductor**; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT **Semiconductor** materials
(polyacene **film**; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT Electric conductivity
Semiconductor device fabrication
Semiconductor devices
Vapor deposition process
(**semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT 499138-96-4P, 2,3,9,10-Tetramethylpentacene
(crystalline **semiconductor** thin **film** deposition; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT 758706-01-3P
(**semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT 607387-98-4P 758706-00-2P
(**semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT 637-88-7, Cyclohexane-1,4-dione **7218-35-1**, 1,4-Dihydroxyanthracene 25445-42-5
(**semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)
IT 7440-21-3, Silicon, properties

(**semiconductor** substrate; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)

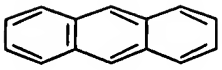
IT 7440-57-5, Gold, properties
(source/drain electrodes; **semiconductive** polyacene compds. and preparation of polyacene compds. and fabrication of organic **semiconductor** devices)

L44 ANSWER 17 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:701753 HCAPLUS Full-text
DOCUMENT NUMBER: 141:216874
TITLE: Manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole
INVENTOR(S): Saito, Takayuki
PATENT ASSIGNEE(S): Renesas Technology Corp., Japan
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004166669	A1	20040826	US 2003-683392 <--	20031014
US 6787454	B1	20040907		
JP 2004253659	A	20040909	JP 2003-43303 <--	20030220
TW 231525	B	20050421	TW 2003-92131773 <--	20031113
DE 102004001672	A1	20040909	DE 2004-102004001672 <--	20040112
CN 1523657	A	20040825	CN 2004-10002759 <--	20040114
KR 2004075708	A	20040830	KR 2004-2543 <--	20040114

PRIORITY APPLN. INFO.: JP 2003-43303 A 20030220 <--

ED Entered STN: 27 Aug 2004
AB A via hole is formed so as to reach a Cu interconnection through an interlayer insulating **film** that covers the Cu interconnection. A conductive polymeric member is buried in the via hole by electrolysis. A resist pattern is formed on the interlayer insulating **film** by photolithog., and a trench is formed so as to be connected to the via hole by etching by using the resist pattern as a mask. The resist pattern and the conductive polymeric member are then removed.
IT **120-12-7D**, Anthracene, derivs.
(in conductive polymer; manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)
RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



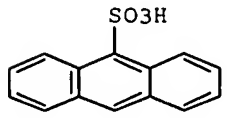
IC ICM H01L021-4763
INCL 438638000
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38, 56
ST resist pattern conductive polymer via hole dual damascene **semiconductor**
IT Conducting polymers
(in via hole; manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)
IT Antireflective **films**
Dielectric **films**
Electrolysis
Etching
Interconnections, electric
Photolithography
Photoresists
Semiconductor device fabrication
(manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)
IT Etching masks
(photoresists; manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)
IT Contact holes
(via holes; manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)
IT 25233-30-1, Aniline polymer 25233-34-5, Thiophene polymer
30604-81-0, Pyrrole polymer
(conductive polymers; manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)
IT **120-12-7D**, Anthracene, derivs.
(in conductive polymer; manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)
IT 7440-50-8, Copper, uses
(interconnections; manufacture of **semiconductor** devices with dual damascene structure with controlled-dimension resist pattern and conductive polymer in via hole)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 18 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:533195 HCAPLUS Full-text
DOCUMENT NUMBER: 141:79294
TITLE: **Semiconductor** compositions and electrophotographic apparatus parts using them with excellent heat, moisture, and voltage resistance

INVENTOR(S): Yoshikawa, Hitoshi; Iinuma, Sumio
PATENT ASSIGNEE(S): Tokai Rubber Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004184513	A	20040702	JP 2002-348351 <--	20021129
PRIORITY APPLN. INFO.:			JP 2002-348351 <--	20021129

OTHER SOURCE(S): MARPAT 141:79294
ED Entered STN: 02 Jul 2004
AB The compns., development rolls for electrophotog., contain elec. conductive polymers (A) having surfactant structures (sulfonic acid group-containing naphthalene or anthracene structures, preferably) and showing solubility to PhMe or Me Et ketone ≥20% and solubility to water <3% and binder polymers (B), thus improving compatibility of them.
IT **22582-76-9DP**, 9-Anthracenesulfonic acid, polymers with aniline (conductive polymer; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
RN 22582-76-9 HCAPLUS
CN 9-Anthracenesulfonic acid (8CI, 9CI) (CA INDEX NAME)



IC ICM G03G015-08
ICS C08L101-00; F16C013-00; G03G015-02; G03G015-16; H01B001-20
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, **76**
ST elec conductor polymer soly moisture resistance; sulfonic surfactant polyaniline polyester blend compatibility; electrophotog development roll **semiconductor** heat resistance
IT Acrylic rubber
(Denka ER 7300T, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT Urethane rubber, uses
(Elastollan 1040, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT Butadiene rubber, uses
(JSR-BR 1220NM, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT Fluoropolymers, uses

(acrylic, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Epichlorohydrin rubber
Synthetic rubber, uses
(allyl glycidyl ether-epichlorohydrin-ethylene oxide, Epichlormer CG, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Epoxy resins, uses
Polyureas
Thermoplastic rubber
(binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Surfactants
(conductive polymers; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT **Films**
(elec. **conductive**; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT EPDM rubber
(ethylene-ethylidenenorbornene-propene, Esprene 505, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Electric **conductors**
(**films**; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Acrylic polymers, uses
(fluorine-containing, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Nitrile rubber, uses
(hydrogenated, Zetpol 0020, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Polyimides, uses
(polyamide-, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Polyamides, uses
(polyimide-, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Conducting polymers
(polypyrroles, sulfonic group-containing; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Conducting polymers
(polythiophenes, sulfonic group-containing; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Electrophotographic apparatus
(rollers; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Conducting polymers
Semiconductor materials
(**semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT Polymer blends
(**semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT Polyanilines
(sulfonic group-containing, conductive polymer; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT 220669-44-3P
(binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT 9011-14-7, LG 6A 434322-68-6, Defensa TR 230K 577796-28-2, Vylomax HR 16NN
(binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT 9003-17-2
(butadiene rubber, JSR-BR 1220NM, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT 62-53-3DP, Aniline, polymers with sulfonic acid group-containing surfactant 109-97-7DP, Pyrrole, polymers with dinonylnaphthalenesulfonic acid 110-02-1DP, Thiophene, polymers with dinonylnaphthalenesulfonic acid **22582-76-9DP**, 9-Anthracenesulfonic acid, polymers with aniline 25322-17-2DP, Dinonylnaphthalenesulfonic acid, polymers with aniline 189376-87-2DP, 2,2'-Dinaphthylmethane-6,6'-disulfonic acid monosodium salt, polymers with aniline 712272-86-1DP, polymers with aniline
(conductive polymer; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT 175834-23-8, Burnock DB 980K
(crosslinking agent; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT 9003-18-3
(nitrile rubber, hydrogenated, Zetpol 0020, binder; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)
IT 11109-50-5, SUS 304
(roll core; **semiconductor** compns. containing conductive surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

L44 ANSWER 19 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:509038 HCAPLUS Full-text
DOCUMENT NUMBER: 141:79098
TITLE: Organic electroluminescent device and encapsulation method
INVENTOR(S): McCormick, Fred B.; Ottman, Jon E.; Padiyath, Raghunath
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S. Pat. Appl. Publ., 19 pp.

CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004119403	A1	20040624	US 2002-324585 <--	20021219
US 6975067	B2	20051213		
WO 2004061992	A1	20040722	WO 2003-US32378 <--	20031010
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003277364	A1	20040729	AU 2003-277364 <--	20031010
EP 1579517	A1	20050928	EP 2003-814603 <--	20031010
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1726607	A	20060125	CN 2003-80106425 <--	20031010
JP 2006511916	T	20060406	JP 2004-564784 <--	20031010
US 2005247400	A1	20051110	US 2005-179401 <--	20050712
US 7156942	B2	20070102		
PRIORITY APPLN. INFO.:			US 2002-324585 A <--	20021219
			WO 2003-US32378 W <--	20031010

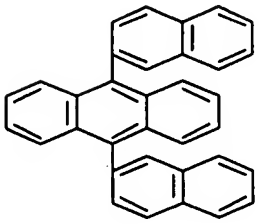
ED Entered STN: 24 Jun 2004

AB Organic electroluminescent devices are described which comprise a first electrode; a second electrode; a light-emitting structure disposed between the first and second electrodes; a **conductive layer** disposed over at least a portion of the second electrode; and a nonconductive material defining an opening through which the **conductive layer** is in elec. communication with the second electrode. Methods of preparing an organic electroluminescent device are discussed which entail forming an electroluminescent structure comprising a first electrode, a second electrode, and a light-emitting structure, where the light-emitting structure is disposed between the first and second electrodes; forming an opening in a nonconductive material; aligning the opening in the nonconductive material with a surface of the second electrode; and establishing an elec. communication between a **conductive layer** and the **second** electrode through the opening in the nonconductive material.

IT **122648-99-1**, 9,10-Bis(2-naphthyl)anthracene
(electron-transporting **layer**; organic electroluminescent device and encapsulation method)

RN 122648-99-1 HCAPLUS

CN Anthracene, 9,10-di-2-naphthalenyl- (CA INDEX NAME)



IC ICM H01J001-62
ICS H01J063-04
INCL 313506000; 313512000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, **76**
IT Electroluminescent devices
Electronic packages
Electronic packaging process
Semiconductor device fabrication
(organic electroluminescent device and encapsulation method)
IT 155090-83-8, Baytron P 4083
(buffer **layer**; organic electroluminescent device and encapsulation method)
IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato) **122648-99-1**, 9,10-Bis(2-naphthyl)anthracene
(electron-transporting **layer**; organic electroluminescent device and encapsulation method)
IT 123847-85-8, NPD
(hole-transporting **layer**; organic electroluminescent device and encapsulation method)
IT 26009-24-5, Covion PDY132
(light-emitting **layer**; organic electroluminescent device and encapsulation method)
REFERENCE COUNT: 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 20 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:412262 HCAPLUS Full-text
DOCUMENT NUMBER: 140:415077
TITLE: Interconnection substrate having amorphous fluoropolymer **layer**, display device, color filter therefor, and methods of forming the same
INVENTOR(S): Sasaki, Hiroshi; Tomioka, Yasushi
PATENT ASSIGNEE(S): Hitachi Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004146478	A	20040520	JP 2002-307784 <--	20021023
PRIORITY APPLN. INFO.:			JP 2002-307784 <--	20021023

ED Entered STN: 21 May 2004

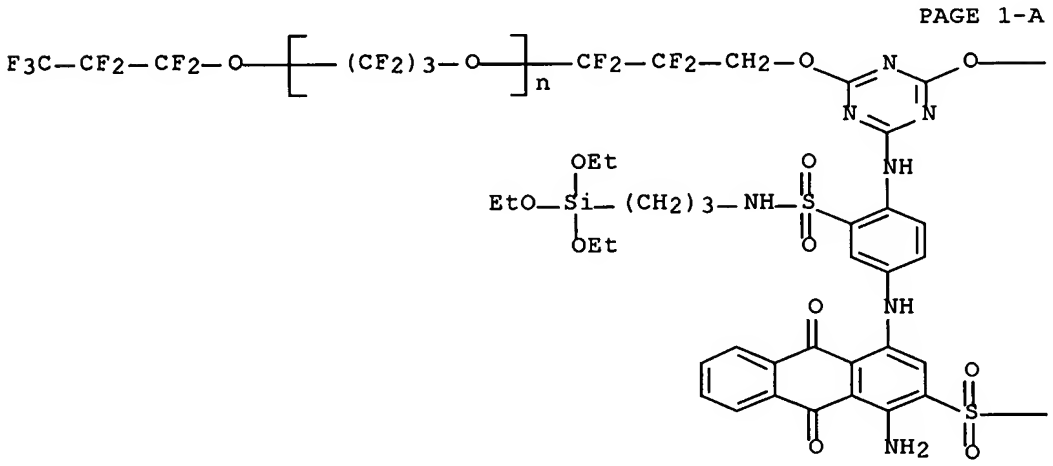
AB The interconnection substrate comprises an metal interconnection formed on a substrate, an amorphous fluoropolymer **layer** on a non-interconnection area on the substrate, and a light-absorbing **layer** formed beneath the amorphous fluoropolymer **layer** . Light with ≥250 nm is directed to the substrate to form a pattern of hydrophilicity and hydrophobicity, and a metal interconnection, an electrode, a **semiconductor layer** , insulating **layer**, etc. are formed on the hydrophilic surface.

IT **690244-09-8P 690244-11-2P 690244-14-5P**
690244-15-6P 690244-17-8P 690268-81-6P
690268-85-0P
(preparation of fluoropolymer compound used for manufacture of display device
interconnection)

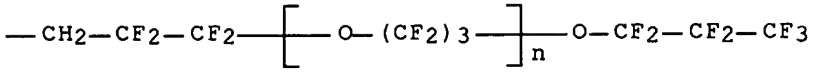
RN 690244-09-8 HCAPLUS

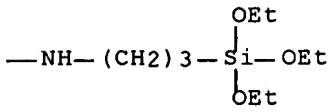
CN Poly[oxy(1,1,2,2,3,3-hexafluoro-1,3-propanediyl)], α,α'-[[6-[[4-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazine-2,4-diyl]bis[oxy(1,1,2,2-tetrafluoro-3,1-propanediyl)]]bis[ω-(heptafluoropropoxy)- (9CI) (CA INDEX NAME)

PAGE 1-A



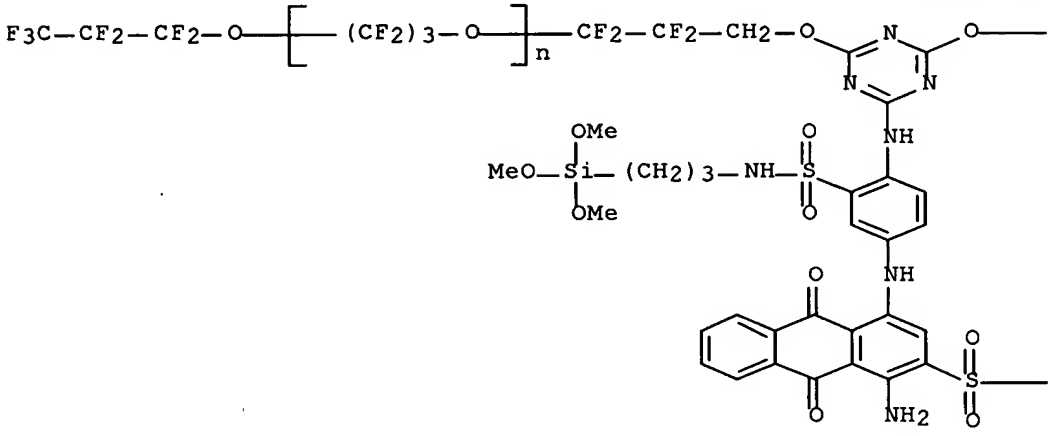
PAGE 1-B

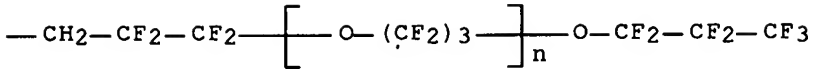


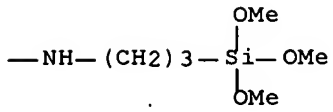


RN 690244-11-2 HCAPLUS
CN Poly[oxy(1,1,2,2,3,3-hexafluoro-1,3-propanediyl)], α,α'-[[6-[[4-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazine-2,4-diyl]bis[oxy(1,1,2,2-tetrafluoro-3,1-propanediyl)]]bis[ω-(heptafluoropropoxy)- (9CI) (CA INDEX NAME)

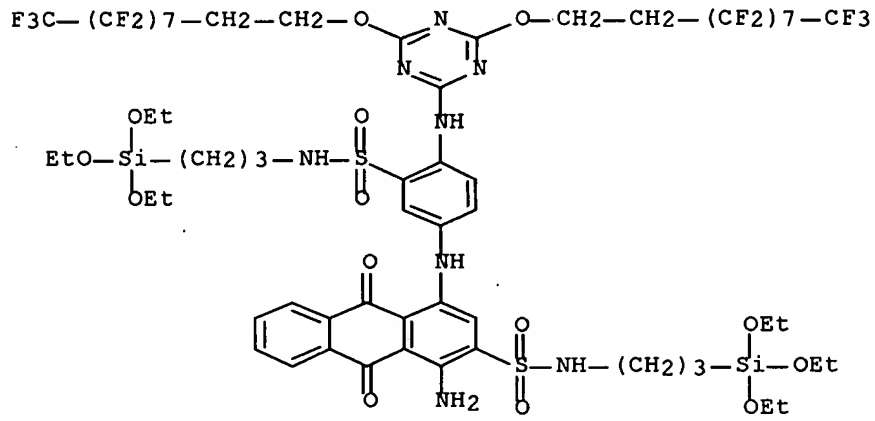
PAGE 1-A



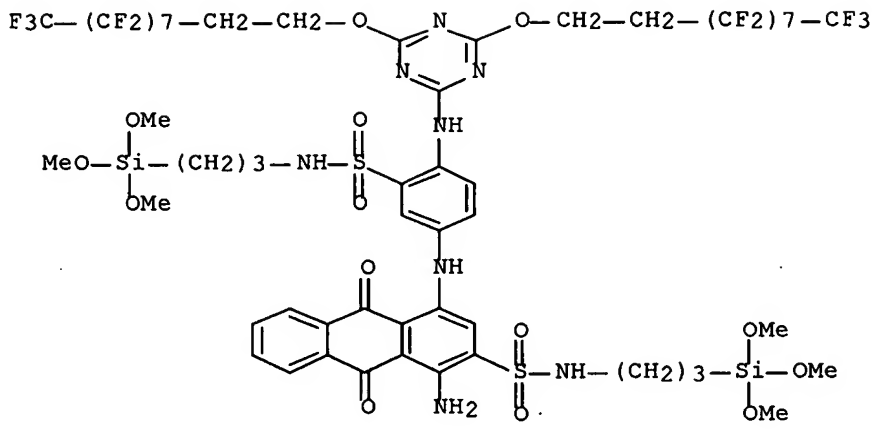




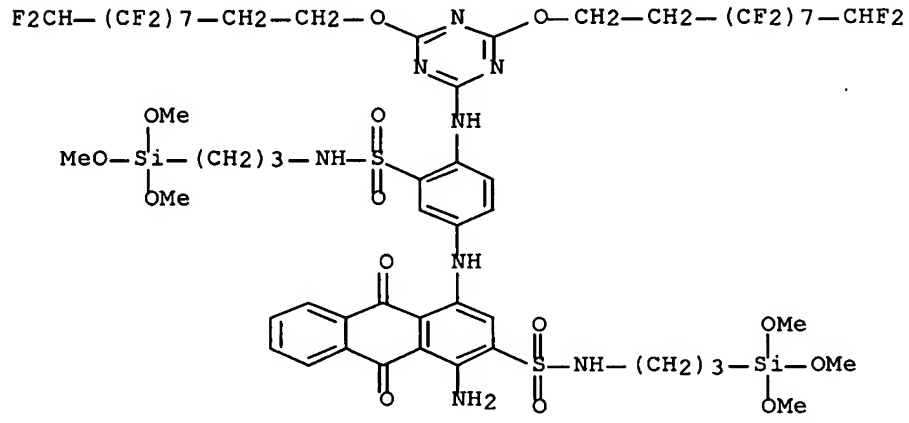
RN 690244-14-5 HCAPLUS
CN 2-Anthracenesulfonamide, 1-amino-4-[[4-[[4,6-bis[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)oxy]-1,3,5-triazin-2-yl]amino]-3-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-9,10-dihydro-9,10-dioxo-N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



RN 690244-15-6 HCAPLUS
CN 2-Anthracenesulfonamide, 1-amino-4-[[4-[[4,6-bis[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)oxy]-1,3,5-triazin-2-yl]amino]-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-9,10-dihydro-9,10-dioxo-N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

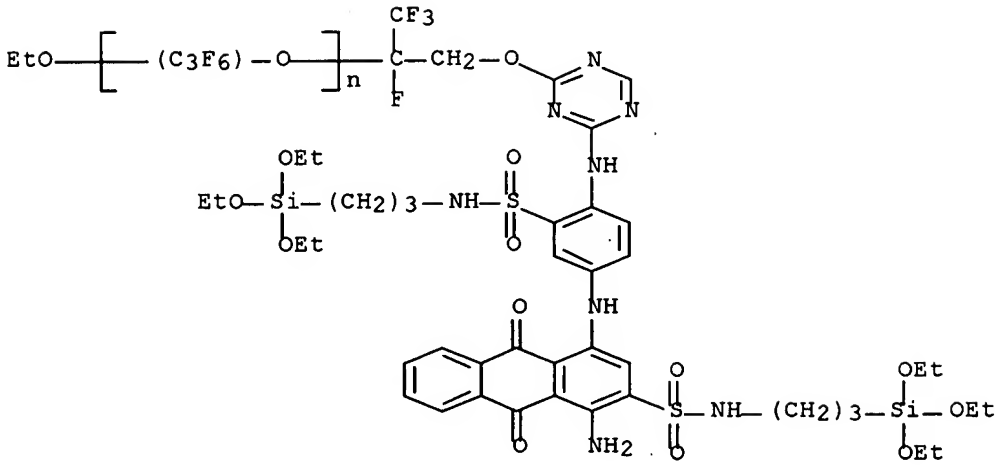


RN 690244-17-8 HCAPLUS
CN 2-Anthracenesulfonamide, 1-amino-4-[[4-[[4,6-bis[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-hexadecafluorodecyl)oxy]-1,3,5-triazin-2-yl]amino]-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-9,10-dihydro-9,10-dioxo-N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

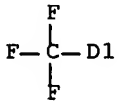


RN 690268-81-6 HCAPLUS
CN Poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]], α-[1-[[[4-[[4-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(triethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]oxy]methyl]-1,2,2,2-tetrafluoroethyl]-ω-[tetrafluoro(trifluoromethyl)ethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



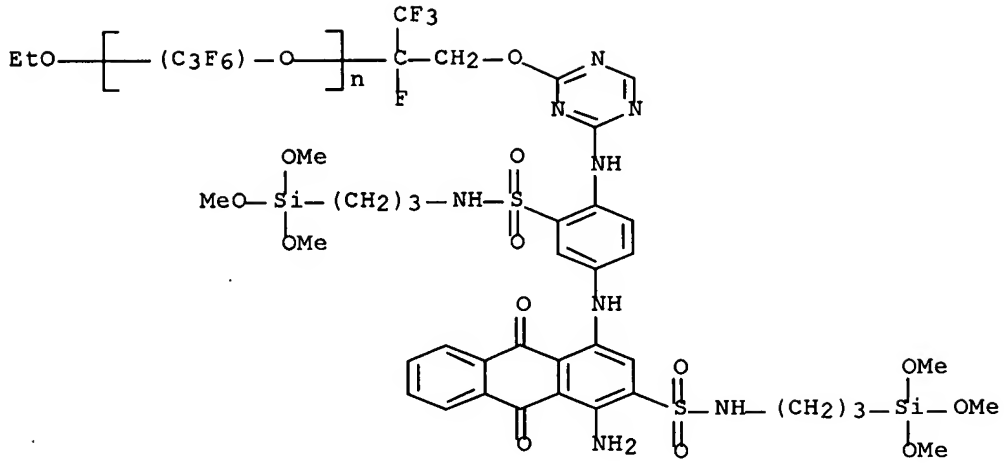
PAGE 2-A



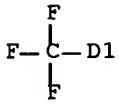
4 (D1—F)

RN 690268-85-0 HCAPLUS
CN Poly[oxy[trifluoro(trifluoromethyl)-1,2-ethanediyl]], α-[1-[[[4-[[4-[[4-amino-9,10-dihydro-9,10-dioxo-3-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]-1-anthracenyl]amino]-2-[[[3-(trimethoxysilyl)propyl]amino]sulfonyl]phenyl]amino]-1,3,5-triazin-2-yl]oxy]methyl]-1,2,2,2-tetrafluoroethyl]-ω-[tetrafluoro(trifluoromethyl)ethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A

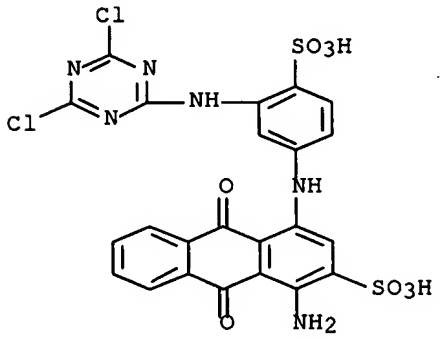


PAGE 2-A



4 (D1—F)

IT **13324-20-4**, Mikacion brilliant blue RS
(preparation of fluoropolymer compound used for manufacture of display device
interconnection)
RN 13324-20-4 HCAPLUS
CN 2-Anthracenesulfonic acid, 1-amino-4-[[3-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]-4-sulfophenyl]amino]-9,10-dihydro-9,10-dioxo- (CA INDEX NAME)



IC ICM H05K003-10
ICS G02B005-20; G09F009-00; G09F009-30; H01L021-027; H05B033-10; H05B033-14; H05B033-22; H05K001-02
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, **76**
IT Polysiloxanes, uses
(fluorine-containing; interconnection substrate having fluoropolymer compound **layer** for display device)
IT Hydrophilicity
Interconnections, electric
Laser radiation
Optical filters
Optical imaging devices
(interconnection substrate having fluoropolymer compound **layer** for display device)
IT Fluoropolymers, uses
(interconnection substrate having fluoropolymer compound **layer** for display device)
IT Fluoropolymers, uses
(polysiloxane-; interconnection substrate having fluoropolymer compound **layer** for display device)
IT 51851-37-7P 83048-65-1P 85857-16-5P 101947-16-4P 134061-13-5P 197857-50-4P 269743-55-7P 527745-02-4P 527745-03-5P 527745-04-6P 528844-37-3P **690244-09-8P** 690244-10-1P **690244-11-2P** 690244-12-3DP, Termination for perfluoroethylene glycol and perfluoromethylene copolymer 690244-13-4DP, Termination for perfluoroethylene glycol and perfluoromethylene copolymer **690244-14-5P** **690244-15-6P** 690244-16-7P **690244-17-8P** 690244-18-9P 690268-75-8P 690268-79-2P **690268-81-6P** 690268-83-8P **690268-85-0P** 690268-87-2P
(preparation of fluoropolymer compound used for manufacture of display device
interconnection)
IT 678-39-7, 1H,1H,2H,2H-Perfluorodecanol 919-30-2, Sila ace S330 6539-67-9, Procion yellow HA **13324-20-4**, Mikacion brilliant blue RS 13822-56-5, Sila ace S360 90317-74-1, Krytox 157FS-L 99752-24-6, Fomblin Z-DOL4000 146349-51-1, Demnum SA
(preparation of fluoropolymer compound used for manufacture of display device
interconnection)

L44 ANSWER 21 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:250603 HCAPLUS Full-text
DOCUMENT NUMBER: 140:279723
TITLE: Organic amine field-effect transistors
INVENTOR(S): Tsurutani, Yasuyuki; Takeuchi, Masako; Ichinosawa, Akiko; Aramaki, Shinji
PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 2004095850 A 20040325 JP 2002-254876 20020830
<--
PRIORITY APPLN. INFO.: JP 2002-254876 20020830
<--

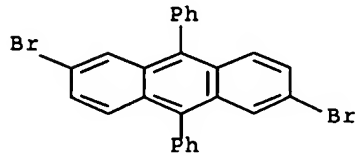
ED Entered STN: 26 Mar 2004

AB The **organic semiconductor layers** provided in the title FETs comprise aromatic amines and condensed heterocyclic amines X1X2N•A•NX3X4 [A = (substd.)alkylene, (substd.)arylene, (substd.)heterocyclic divalent group; X1-4 = (amino-substd.)aryl, (amino-substd.)heterocyclyl; ≥1 of A and/or X1-4 contain aromatic and/or condensed heterocyclic rings]. The **organic semiconductor layers** have high electron mobility, chemical stability in air, and easy manufacturable by coating process.

IT **528609-98-5**
(aromatic diamine **semiconductive** field-effect transistors)

RN 528609-98-5 HCAPLUS

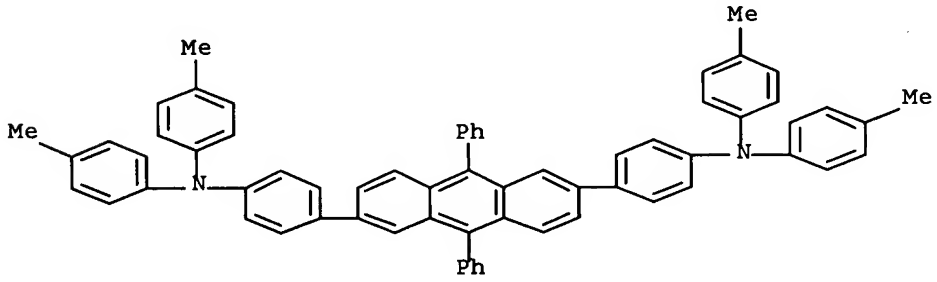
CN Anthracene, 2,6-dibromo-9,10-diphenyl- (9CI) (CA INDEX NAME)



IT **528609-95-2P 674819-51-3P**
(**semiconductor** material; aromatic diamine **semiconductive** field-effect transistors)

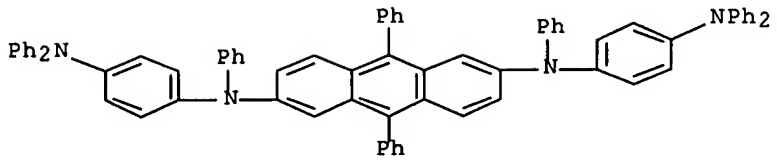
RN 528609-95-2 HCAPLUS

CN Benzenamine, 4,4'-(9,10-diphenyl-2,6-anthracenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 674819-51-3 HCAPLUS

CN 2,6-Anthracenediamine, N,N'-bis[4-(diphenylamino)phenyl]-N,N',9,10-tetraphenyl- (9CI) (CA INDEX NAME)



IC ICM H01L051-00
ICS C07C211-54; G02F001-1368; H01L029-786; H01L029-80
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25, 27, 28
ST amine diamine arom heterocyclic org **semiconductor** stability FET HEMT
IT Amines, properties
(aromatic, diamine; aromatic diamine **semiconductive** field-effect transistors)
IT Amines, properties
(heterocyclic, diamine; aromatic diamine **semiconductive** field-effect transistors)
IT Electron mobility
(high; aromatic diamine **semiconductive** field-effect transistors)
IT **Semiconductor** materials
(organic diamines; aromatic diamine **semiconductive** field-effect transistors)
IT Field effect transistors
High-electron-mobility transistors
(organic; aromatic diamine **semiconductive** field-effect transistors)
IT Coating materials
(**semiconductive** organic amines; aromatic diamine **semiconductive** field-effect transistors)
IT Electric current-potential relationship
(source-drain, on gate voltage; aromatic diamine **semiconductive** field-effect transistors)
IT 19606-98-5 **528609-98-5**
(aromatic diamine **semiconductive** field-effect transistors)
IT 182507-83-1P **528609-95-2P 674819-51-3P**
674819-53-5P 674819-55-7P 674819-57-9P
(**semiconductor** material; aromatic diamine **semiconductive** field-effect transistors)

L44 ANSWER 22 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:18181 HCAPLUS Full-text
DOCUMENT NUMBER: 140:69084
TITLE: Vertical organic static induction transistor suitable for driving element for organic electroluminescent display
INVENTOR(S): Iechi, Hiroyuki; Kudo, Kazuhiro
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

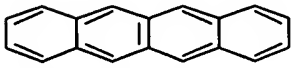
JP 2004006476	A	20040108	JP 2002-159138 <--	20020531
US 2004004215	A1	20040108	US 2003-441792 <--	20030516
US 7002176	B2	20060221		
PRIORITY APPLN. INFO.:			JP 2002-159138 <--	A 20020531
			JP 2002-286815 <--	A 20020930

ED Entered STN: 09 Jan 2004

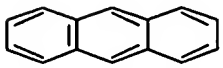
AB The transistor comprises a source electrode, a first **organic semiconductor layer**, a comb- or mesh-like gate electrode, a **second organic semiconductor layer**, and a drain electrode, wherein the first- and **second semiconductor layers** are made of different substances so as to form a potential barrier at the interface. The transistor achieves high operation speed and high withstand voltage.

IT **92-24-0**, Tetracene **120-12-7**, Anthracene, uses
258-31-1, Hexacene
(**semiconductor**; vertical organic static induction transistor suitable for driving organic electroluminescent display)

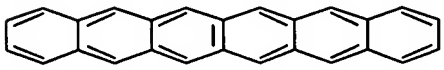
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



RN 258-31-1 HCAPLUS
CN Hexacene (CA INDEX NAME)



IC ICM H01L029-80
ICS H01L021-28; H01L029-41; H01L029-417; H01L029-423; H01L051-00; H01L029-58; H01L029-50; H01L029-44; H01L029-28

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 73

ST vertical static induction transistor org **semiconductor** potential barrier

IT **Semiconductor** materials
(organic; vertical organic static induction transistor suitable for driving organic electroluminescent display)

IT Hydrazones
(**semiconductor**; vertical organic static induction transistor suitable for driving organic electroluminescent display)

IT 91-20-3, Naphthalene, uses **92-24-0**, Tetracene 101-81-5, Diphenylmethane **120-12-7**, Anthracene, uses 135-48-8, Pentacene 147-14-8, Copper phthalocyanine **258-31-1**, Hexacene 519-73-3, Triphenylmethane 588-59-0, Stilbene 603-34-9, Triphenylamine 2085-33-8, Alq3 25067-59-8, Poly(N-vinylcarbazole) 25067-59-8D, Poly(N-vinylcarbazole), halide 26589-93-5, Formaldehyde-pyrene polymer 36118-45-3, Pyrazoline 72038-22-3, N-Ethylcarbazole-formaldehyde copolymer 123847-85-8, α-NPD
(**semiconductor**; vertical organic static induction transistor suitable for driving organic electroluminescent display)

L44 ANSWER 23 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:3198 HCAPLUS Full-text
DOCUMENT NUMBER: 140:69020
TITLE: Organic **semiconductor** element, production method therefor, and organic **semiconductor** device
INVENTOR(S): Unno, Akira
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004001855	A1	20031231	WO 2003-JP7792 <--	20030619
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004023021	A	20040122	JP 2002-179468 <--	20020620
AU 2003243002	A1	20040106	AU 2003-243002 <--	20030619
EP 1532688	A1	20050525	EP 2003-760907 <--	20030619
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1669154	A	20050914	CN 2003-817137 <--	20030619
US 2005247928	A1	20051110	US 2004-517529	20041213

<--
US 7202495 B2 20070410
PRIORITY APPLN. INFO.: JP 2002-179468 A 20020620
<--
WO 2003-JP7792 W 20030619
<--

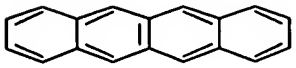
ED Entered STN: 02 Jan 2004

AB The present invention relates to an organic **semiconductor** element, the production method therefor, an active matrix type display device that utilizes the organic **semiconductor** element, and an organic **semiconductor** device that utilizes the organic **semiconductor** as an IC-card electronic tag. An organic **semiconductor** element is provided which has the controlled crystalline state of a vapor-deposited pentacene **layer** and a high mobility with low voltage driving. The organic **semiconductor** element is formed by providing a gate electrode on the surface of a substrate, providing thereon a gate insulating **layer**, providing on the surface of the gate insulating **layer** an island-shaped protrusion **layer** having dispersed and island-shaped protrusions with a low surface energy, providing on the island-shaped protrusion **layer** a source electrode and a drain electrode with a distance between the electrodes, providing thereon an **organic semiconductor layer** in contact with the island-shaped protrusion **layer** and both electrodes, and further providing a protective **film** on the **organic semiconductor layer**.

IT **92-24-0D**, Tetracene, derivs.
(organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



IC ICM H01L029-786
ICS H01L051-00

CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 74

ST org **semiconductor** device fabrication

IT Optical imaging devices
(active matrix; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Identification cards
(electronic; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Silanes
(fluoroalkyl; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Dielectric **films**
Gate contacts
Integrated circuits
Liquid crystal displays
Semiconductor device fabrication
Thin **film** transistors
(organic **semiconductor** element, production method therefor, and organic **semiconductor** device)

IT Fluoropolymers, uses
(organic **semiconductor** element, production method therefor, and

organic **semiconductor** device)
IT **Semiconductor** devices
(organic; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)
IT Coating process
(spin; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)
IT Coating process
(spray; organic **semiconductor** element, production method therefor, and organic **semiconductor** device)
IT **92-24-0D**, Tetracene, derivs. 135-48-8D, Pentacene, derivs.
(organic **semiconductor** element, production method therefor, and organic **semiconductor** device)
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 24 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:989837 HCAPLUS Full-text
DOCUMENT NUMBER: 140:33422
TITLE: Integrated-optical microsystem based on organic **semiconductors**
INVENTOR(S): Seitz, Peter
PATENT ASSIGNEE(S): Csem Centre Suisse D'electronique Et De Microtechnique SA, Switz.
SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

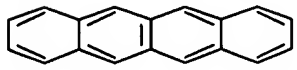
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003230768	A1	20031218	US 2003-462439 <--	20030616
US 7038235	B2	20060502		
EP 1376697	A1	20040102	EP 2002-405494 <--	20020617

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.: EP 2002-405494 A 20020617 <--

ED Entered STN: 19 Dec 2003
AB An integrated-optical microsystem is described comprising a substrate and a plurality of components arranged on the substrate, at least a first of the components comprising a **layer** of organic **semiconductor** material, characterized in that the first component and a second, different component are monolithically integrated on the substrate. An active-pixel light-emitting diode display comprising a light-emitting diode structure and a switch transistor wherein the diode structure and the switch transistor are component of the integrated-optical microsystem. An active-pixel photosensor or image sensor using the integrated-optical microsystem is also described. A **sheet** scanner using the active-pixel photosensor is also described. An electronic writing equipment using the **sheet** scanner is also described. A pocket calculator using the **sheet** scanner is also described. An integrated-optical sensor comprising the integrated-optical microsystem is also described. A method of fabricating the integrated-optical microsystem is also described.
IT **92-24-0**, Tetracene
(**semiconductor layer**; integrated-optical

microsystem based on organic **semiconductors**)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



IC ICM H01L031-0328
INCL 257200000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74, **76**
ST integrated optical microsystem org **semiconductor**
IT Electroluminescent devices
(displays; integrated-optical microsystem based on organic **semiconductors**)
IT Luminescent screens
(electroluminescent; integrated-optical microsystem based on organic **semiconductors**)
IT Writing instruments
(electronic; integrated-optical microsystem based on organic **semiconductors**)
IT Optical instruments
(integrated, microsystem; integrated-optical microsystem based on organic **semiconductors**)
IT Electroluminescent devices
Optical detectors
Optical scanners
Semiconductor device fabrication
(integrated-optical microsystem based on organic **semiconductors**)
IT Polycarbonates, uses
Polyimides, uses
(**semiconductor layer**; integrated-optical microsystem based on organic **semiconductors**)
IT Optical imaging devices
(sensor; integrated-optical microsystem based on organic **semiconductors**)
IT Polyamides, uses
Polyesters, uses
(substrate; integrated-optical microsystem based on organic **semiconductors**)
IT 7631-86-9, Silicon dioxide, uses 12033-89-5, Silicon nitride, uses
(elec. insulation **layer**; integrated-optical microsystem based on organic **semiconductors**)
IT 7429-90-5, Aluminum, uses 7440-70-2, Calcium, uses
(electron injection **layer**; integrated-optical microsystem based on organic **semiconductors**)
IT 50926-11-9, Indium tin oxide
(hole injection **layer**; integrated-optical microsystem based on organic **semiconductors**)
IT **92-24-0**, Tetracene 135-48-8, Pentacene 2085-33-8, Alq3
9002-86-2, Polyvinyl chloride 9011-14-7, PMMA 25190-62-9, Poly(1,4-phenylene) 26009-24-5, Poly(1,4-phenylene-1,2-ethenediyl)
(**semiconductor layer**; integrated-optical

microsystem based on organic **semiconductors**)

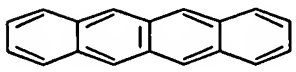
IT 7440-21-3, Silicon, uses 9002-88-4, Polyethylene. 9003-07-0, Polypropylene 12597-68-1, Stainless steel, uses 25036-53-7, Kapton 25038-59-9, Mylar, uses
(substrate; integrated-optical microsystem based on organic **semiconductors**)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 25 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:983291 HCAPLUS Full-text
DOCUMENT NUMBER: 140:279156
TITLE: Nucleation of organic **semiconductors** on inert substrates
AUTHOR(S): Verlaak, Stijn; Steudel, Soeren; Heremans, Paul; Janssen, Dimitri; Deleuze, Michael S.
CORPORATE SOURCE: IMEC, Louvain, B-3001, Belg.
SOURCE: Physical Review B: Condensed Matter and Materials Physics (**2003**), 68(19), 195409/1-195409/11
CODEN: PRBMDO; ISSN: 0163-1829
PUBLISHER: American Physical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 17 Dec 2003
AB The authors have adapted the microscopic theory of nucleation for the epitaxial growth of inorg. materials to the nucleation of organic small mols. on an inert substrate like the gate dielec. of an organic thin- **film** transistor. The parameters required to explore the model were calculated with the standard MM3 force field and also include exptl. determined vapor pressure data, as well as **film** growth data. Sufficient agreement is found between the exptl. determined equilibrium crystal shape and heats of sublimation on the one hand and the calculated parameters on the other hand. The growth of pentacene, tetracene, and perylene on inert substrates was studied in terms of this theory, especially focusing on the two-dimensional (2D) to 3-dimensional nucleation transition. 3D nucleation leads to ill-connected grains, while 2-dimensional nucleated grains form continuous **films** suitable for charge transport. The anal. of this transition allows for the exptl. determination of the mol.-substrate interactions for a given mol. on a given surface. The deposition conditions for 2-dimensional growth shift to less favorable substrate temps. and deposition rates as the difference between interlayer interactions and mol.-substrate interactions increase and the intralayer interactions decrease. Also, those interactions affect the nucleation rate and therefore the ultimate 2-dimensional grain size that can be obtained.

IT **92-24-0P**, Tetracene
(nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin **film** transistors)

RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



CC 76-3 (**Electric** Phenomena)

Section cross-reference(s): 22
ST nucleation epitaxy org **semiconductor** thin **film** transistor
IT Gate contacts
(dielec.; nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin **film** transistors)
IT Electric insulators
(gate; nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin **film** transistors)
IT Crystal nucleation
Epitaxy
Semiconductor device fabrication
Thin **film** transistors
(nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin **film** transistors)
IT Organic compounds, uses
(nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin **film** transistors)
IT **Semiconductor** materials
(organic; nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin **film** transistors)
IT **92-24-0P**, Tetracene 135-48-8P, Pentacene 198-55-0P, Perylene
(nucleation of organic **semiconductors** on inert substrates for gate dielec. in thin **film** transistors)
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 26 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:811610 HCAPLUS Full-text
DOCUMENT NUMBER: 139:284738
TITLE: **Semiconductor** memory cell with a field effect transistor component
INVENTOR(S): Schmid, Guenter; Halik, Marcus; Klauk, Hagen; Dehm, Christine; Haneder, Thomas; Mikolajick, Thomas
PATENT ASSIGNEE(S): Infineon Technologies AG, Germany
SOURCE: Ger. Offen., 14 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

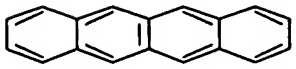
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10212926	A1	20031016	DE 2002-10212926 <--	20020322
US 2003234397	A1	20031225	US 2003-395428 <--	20030324
US 7049628	B2	20060523		
PRIORITY APPLN. INFO.:			DE 2002-10212926 A <--	20020322

ED Entered STN: 16 Oct 2003
AB A **semiconductor** memory cell with a field-effect transistor component is suggested, with which between a 1st gate electrode and the gate isolation region a modulation material is intended. The modulation material can be controllably modulated with respect to its elec. and/or material characteristics, so that in accordance with these conditions the channel range

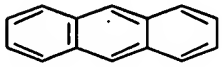
of the memory cell can be electromagnetically influenced, so that various information conditions are represented by various elec. currents detected flowing over the channel range.

IT **92-24-0D**, Tetracene, derivs. **120-12-7D**, Anthracene, derivs.
(**semiconductor** memory cell with a field effect transistor component)

RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



IC ICM H01L027-115
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38
ST **semiconductor** memory device fabrication field effect transistor
IT Polybenzoxazoles
Polycarbonates, uses
Polyesters, uses
Polyethers, uses
Polyimides, uses
Polyurethanes, uses
(gate dielec.; **semiconductor** memory cell with a field effect transistor component)
IT Electric insulators
(isolation; **semiconductor** memory cell with a field effect transistor component)
IT Conducting polymers
(polythiophenes, doped, gate contact; **semiconductor** memory cell with a field effect transistor component)
IT Dielectric **films**
Field effect transistors
Gate contacts
Semiconductor device fabrication
Semiconductor memory devices
(**semiconductor** memory cell with a field effect transistor component)
IT Porphyrins
(**semiconductor** memory cell with a field effect transistor component)
IT 3144-16-9, Camphorsulfonic acid 50851-57-5, Polystyrenesulfonic acid

(gate contact dopant; **semiconductor** memory cell with a field effect transistor component)

IT 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-32-6, Titanium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses
(gate contact; **semiconductor** memory cell with a field effect transistor component)

IT 1314-13-2, Zinc oxide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 9002-88-4, Polyethylene 9003-53-6, Polystyrol 12033-89-5, Silicon nitride, uses 12055-23-1, Hafnium oxide (HfO2)
(gate dielec.; **semiconductor** memory cell with a field effect transistor component)

IT 1518-16-7, TCNQ 37275-48-2, Bipyridine
(modulation **layer**; **semiconductor** memory cell with a field effect transistor component)

IT **92-24-0D**, Tetracene, derivs. **120-12-7D**, Anthracene, derivs. 135-48-8D, Pentacene, derivs. 147-14-8D, Copper phthalocyanine, derivs. 7440-21-3, Silicon, uses 66280-99-7D, Polyvinylthiophene, derivs.
(**semiconductor** memory cell with a field effect transistor component)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 27 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:774027 HCAPLUS Full-text
DOCUMENT NUMBER: 139:300175
TITLE: Side-gate-type organic FETs and organic EL devices
INVENTOR(S): Yahiro, Masayuki; Ishida, Kenji; Matsushige, Kazumi
PATENT ASSIGNEE(S): Kansai Technology Licensing Organization Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

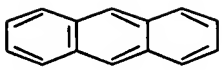
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003282884	A	20031003	JP 2002-86669 <--	20020326
PRIORITY APPLN. INFO.:			JP 2002-86669 <--	20020326

ED Entered STN: 03 Oct 2003

AB The FETs contain (a) gate electrodes on substrates, (b) organic **semiconductor** carrier transport **layers**, and (c) source and drain electrodes above and under the transport **layers**. Organic EL devices contain (a) ≥2 control electrodes on substrates, (b) luminescent **organic semiconductor layers**, (c) pairs of implantation electrode **layers** set above and under the **semiconductor layers**, and (d) light-emittance control circuits which apply opposite-polarity control voltage on the ≥2 electrodes.

IT **120-12-7**, Anthracene, uses
(carrier transport **layers** for side-gate-type organic FETs and organic EL devices)

RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)

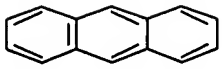


IC ICM H01L029-786
ICS H01L051-00; H05B033-14
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 74
IT Electroluminescent devices
Field effect transistors
(organic; carrier transport **layers** for side-gate-type organic FETs and organic EL devices)
IT 109-27-3, Tetracene **120-12-7**, Anthracene, uses 135-48-8, Pentacene 147-14-8, Copper(II) phthalocyanine 5521-31-3, N,N'-Dimethylperylene-3,4,9,10 tetracarboxylic acid diimide 14916-87-1 88493-55-4, α-Sexithiophene
(carrier transport **layers** for side-gate-type organic FETs and organic EL devices)

L44 ANSWER 28 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:774026 HCAPLUS Full-text
DOCUMENT NUMBER: 139:284569
TITLE: Organic thin-**film** transistors
INVENTOR(S): Kamata, Toshihide; Yoshida, Manabu
PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science and Technology, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003282883	A	20031003	JP 2002-86374 <--	20020326
PRIORITY APPLN. INFO.:			JP 2002-86374 <--	20020326

ED Entered STN: 03 Oct 2003
AB Electron-accepting compound **layers** are formed between source and drain electrodes and on **organic semiconductor layers** in the organic TFTs in which gate electrodes are formed in or on substrates, insulator **films** are formed on the gate electrodes and the substrates, and the source and drain electrodes are formed on the **semiconductor layers**. Energy barrier for carrier movement in the **semiconductor layers** is lowered, allowing low-voltage operation of the TFTs.
IT **120-12-7**, Anthracene, uses
(**organic semiconductor layers**; organic TFTs containing acceptor compound **layers** between source and drain electrodes)
RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)

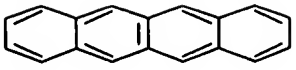


IC ICM H01L029-786
ICS H01L051-00
CC 76-3 (**Electric** Phenomena)
ST org thin **film** transistor acceptor compd
IT Electron acceptors
Thin **film** transistors
(organic TFTs containing acceptor compound **layers** between source and drain electrodes)
IT 5521-31-3, N,N'-Dimethylperylene-3,4,9,10 tetracarboxylic acid diimide
(electron accepting compds.; organic TFTs containing acceptor compound **layers** between source and drain electrodes)
IT **120-12-7**, Anthracene, uses 135-48-8, Pentacene 198-55-0, Perylene
(**organic semiconductor layers**; organic TFTs containing acceptor compound **layers** between source and drain electrodes)

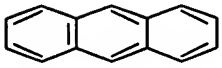
L44 ANSWER 29 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:771173 HCAPLUS Full-text
DOCUMENT NUMBER: 139:269377
TITLE: Design and fabrication of a transponder circuit with a rectifier switch
INVENTOR(S): Schmid, Guenter; Klauk, Hagen; Kriem, Tarik
PATENT ASSIGNEE(S): Infineon Technologies AG, Germany
SOURCE: Ger. Offen., 12 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10209400	A1	20031002	DE 2002-10209400 <--	20020304
PRIORITY APPLN. INFO.:			DE 2002-10209400 <--	20020304

ED Entered STN: 02 Oct 2003
AB The present invention discloses a transponder circuit with a rectifier switch, which includes at least one component that contains at least one **layer** of organic material. The organic material consists of an inert polymer that serves as a matrix material, in which a **semiconductive** material is embedded. The device includes **semiconductor layers** structured as diodes or field effect transistors.
IT **92-24-0**, Tetracene **120-12-7**, Anthracene, uses
(organic conductor; design and fabrication of a transponder circuit with a rectifier switch)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



IC ICM H04B001-59
ICS H01L051-20
CC 76-14 (**Electric** Phenomena)
IT **92-24-0**, Tetracene **120-12-7**, Anthracene, uses
135-48-8, Pentacene 574-93-6, Phthalocyanine 25190-62-9, Poly (p-phenylene) 25233-34-5, Polythiophene 26009-24-5, Poly(p-phenylenevinylene)
(organic conductor; design and fabrication of a transponder circuit with a rectifier switch)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 30 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:737211 HCAPLUS Full-text
DOCUMENT NUMBER: 139:238605
TITLE: Surface modified organic thin-**film** transistors
INVENTOR(S): Smith, Terrance P.; Pellerite, Mark J.; Kelley, Tommie W.; Muyres, Dawn V.; Vogel, Dennis E.; Vogel, Kim M.; Boardman, Larry D.; Dunbar, Timothy D.
PATENT ASSIGNEE(S): 3M Innovative Properties Co., USA
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003175551	A1	20030918	US 2002-94007 <--	20020307
US 6768132	B2	20040727		
WO 2003077327	A1	20030918	WO 2003-US3905 <--	20030211

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,

NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003209087	A1	20030922	AU 2003-209087 <--	20030211
EP 1481428	A1	20041201	EP 2003-707815 <--	20030211
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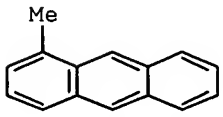
JP 2005519486	T	20050630	JP 2003-575431 <--	20030211
CN 1639884	A	20050713	CN 2003-805321 <--	20030211
PRIORITY APPLN. INFO.:			US 2002-94007 <--	A 20020307
			WO 2003-US3905 <--	W 20030211

ED Entered STN: 19 Sep 2003

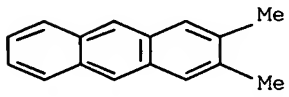
AB Provided is an organic thin-**film** transistor comprising a self-assembled monolayer interposed between a gate dielec. and an **organic semiconductor layer**. The monolayer is a product of a reaction between the gate dielec. and a precursor to the self-assembled monolayer. The **semiconductor layer** comprises a material selected from an acene, substituted with at least one electron-donating group, halogen atom, or a combination thereof, or a benzo-annellated acene or polybenzo-annellated acene, which optionally is substituted with at least one electron-donating group, halogen atom, or a combination thereof. Methods of making a thin-**film** transistor and an integrated circuit comprising thin-**film** transistors are also provided.

IT **610-48-0**, 1-Methylanthracene **613-06-9**, 2,3-Dimethylanthracene **613-12-7**, 2-Methylanthracene **15254-25-8**, 2,3,6,7-Tetramethylanthracene **40476-21-9**, 1-Methyltetracene **52251-71-5**, 2-Ethylanthracene **53666-94-7**, 1,2-Dimethylanthracene **66553-01-3**, 1,2,3,4-Tetramethylanthracene
(surface modified organic thin-**film** transistors)

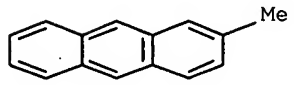
RN 610-48-0 HCAPLUS
CN Anthracene, 1-methyl- (CA INDEX NAME)



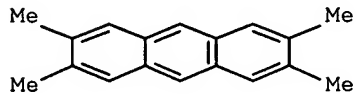
RN 613-06-9 HCAPLUS
CN Anthracene, 2,3-dimethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



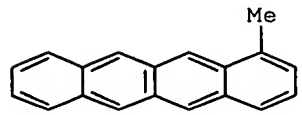
RN 613-12-7 HCAPLUS
CN Anthracene, 2-methyl- (CA INDEX NAME)



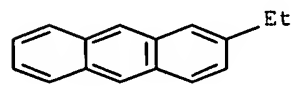
RN 15254-25-8 HCAPLUS
CN Anthracene, 2,3,6,7-tetramethyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



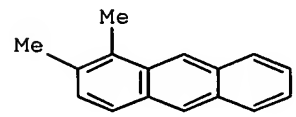
RN 40476-21-9 HCAPLUS
CN Naphthacene, 1-methyl- (6CI, 9CI) (CA INDEX NAME)



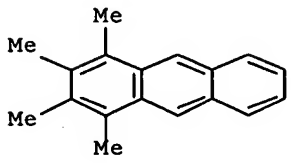
RN 52251-71-5 HCAPLUS
CN Anthracene, 2-ethyl- (CA INDEX NAME)



RN 53666-94-7 HCAPLUS
CN Anthracene, 1,2-dimethyl- (7CI, 9CI) (CA INDEX NAME)



RN 66553-01-3 HCAPLUS
CN Anthracene, 1,2,3,4-tetramethyl- (6CI, 9CI) (CA INDEX NAME)



IC ICM H01L051-00
INCL 428690000
CC 76-3 (**Electric** Phenomena)
ST surface modified org thin **film** transistor
IT Polyacenes
(derivs.; surface modified organic thin-**film** transistors)
IT Organic compounds, properties
(**semiconductive**; surface modified organic thin-**film** transistors)
IT Integrated circuits
Semiconductor materials
Thin **film** transistors
(surface modified organic thin-**film** transistors)
IT 193-09-9, Dibenzo[de,qr]tetracene 193-11-3, Dibenzo[de,uv]pentacene 214-63-1, Zethrene **610-48-0**, 1-Methylanthracene **613-06-9**, 2,3-Dimethylanthracene **613-12-7**, 2-Methylanthracene 14147-38-7, Dibenzo[de,st]pentacene **15254-25-8**, 2,3,6,7-Tetramethylanthracene **40476-21-9**, 1-Methyltetracene 40476-23-1 **52251-71-5**, 2-Ethylanthracene **53666-94-7**, 1,2-Dimethylanthracene **66553-01-3**, 1,2,3,4-Tetramethylanthracene 499138-96-4, 2,3,9,10-Tetramethylpentacene
(surface modified organic thin-**film** transistors)
REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 31 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:590486 HCAPLUS Full-text
DOCUMENT NUMBER: 139:126067
TITLE: Electronic devices containing organic **semiconductor** materials including mono-substituted diphenylhydrazone derivatives
INVENTOR(S): Stasiak, James
PATENT ASSIGNEE(S): Hewlett-Packard Development Company, L.P., USA
SOURCE: U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003141498	A1	20030731	US 2002-59664 <--	20020128

US 6864118 B2 20050308
TW 565935 B 20031211 TW 2002-91111159 20020527
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WO 2003065473 A1 20030807 WO 2003-US2464 20030128
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1470599 A1 20041027 EP 2003-705938 20030128
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
JP 2005516421 T 20050602 JP 2003-564953 20030128
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NO 2004003432 A 20040817 NO 2004-3432 20040817
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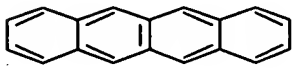
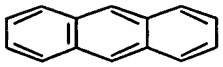
US 2005151130 A1 20050714 US 2005-39444 20050118
<--
PRIORITY APPLN. INFO.: US 2002-59664 A 20020128
<--
WO 2003-US2464 W 20030128
<--

ED Entered STN: 01 Aug 2003
AB An electronic device is presented that includes 1st and 2nd elec. contacts elec. coupled to a **semiconductor** polymer **film**, which includes mono-substituted diphenylhydrazone.
IT **92-24-0**, Naphthacene **120-12-7**, Anthracene, uses
(contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



IC ICM H01L029-04
ICS H01L029-76; H01L029-94; H01L035-24; H01L051-00; H01L031-036
INCL 257040000; 257288000; 257072000
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25, 38
ST org **semiconductor** device fabrication
IT Polyesters, uses
(UV transmission **layer**; electronic devices containing organic **semiconductor** materials)
IT Polyanilines
(contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT Polycarbonates, uses
(device insulator **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT Inks
(elec. conductive, contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT Ink-jet printing
(electronic devices containing organic **semiconductor** materials)
IT Electric contacts
Semiconductor device fabrication
(electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT Electric conductors
(inks, contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT **Semiconductor** materials
(organic; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT Epoxy resins, uses
Polyesters, uses
Polyimides, uses
(passivation **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT Polyimides, uses
(polyether-, passivation **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT Polyethers, uses
(polyimide-, passivation **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)
IT Liquid crystals, polymeric
(substrate; electronic devices containing organic **semiconductor** materials)
IT Glass, uses
(substrate; electronic devices containing organic **semiconductor** materials)
IT 25038-59-9, Polyethylene terephthalate, uses
(UV transmission **layer**; electronic devices containing organic **semiconductor** materials)
IT 7631-86-9, Silica, uses 50926-11-9, Indium tin oxide
(UV transmission **layer**; electronic devices containing organic

semiconductor materials including mono-substituted phenylhydrazone derivs.)

IT 85-01-8, Phenanthrene, uses **92-24-0**, Naphthacene 110-02-1, Thiophene **120-12-7**, Anthracene, uses 129-00-0, Pyrene, uses 135-48-8, Pentacene 7429-90-5, Aluminum, uses 7439-98-7, Molybdenum, uses 7440-06-4, Platinum, uses 7440-22-4, Silver, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 30604-81-0, Polypyrrole
(contact material; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6, Polystyrene 59269-51-1, Polyvinylphenol
(device insulator **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT 588-64-7D, Diphenylhydrazone, derivs.
(electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT 24968-11-4, Polyethylene naphthalate 24968-12-5, Polybutylene terephthalate 25230-87-9
(passivation **layer**; electronic devices containing organic **semiconductor** materials including mono-substituted phenylhydrazone derivs.)

IT 68189-23-1, Benzaldehyde, 4-(Diethylamino)-, diphenylhydrazone 71135-02-9, Benzaldehyde, 4-(Dimethylamino)-, diphenylhydrazone 82532-76-1, Benzaldehyde, 4-(diphenylamino)-, diphenylhydrazone
(**semiconductor layer**; electronic devices containing organic **semiconductor** materials)

IT 1344-28-1, Alumina, uses 7440-21-3, Silicon, uses 9002-86-2, Polyvinyl chloride 9003-01-4D, Polyacrylic acid, derivs. 10043-11-5, Boron nitride, uses
(substrate; electronic devices containing organic **semiconductor** materials)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 32 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:510443 HCAPLUS Full-text
DOCUMENT NUMBER: 139:61360
TITLE: Organic electroluminescence transistors
INVENTOR(S): Iechi, Hiroyuki; Akiyama, Zenichi; Kondo, Hiroshi; Tano, Takanori
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003187983	A	20030704	JP 2001-383624 <--	20011217
US 2003213952	A1	20031120	US 2002-320021 <--	20021216
US 7126153	B2	20061024		

US 2006243971 A1 20061102 US 2006-472597 20060621
<--
PRIORITY APPLN. INFO.: JP 2001-383624 A 20011217
<--
US 2002-320021 A1 20021216
<--

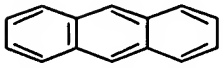
ED Entered STN: 04 Jul 2003

AB The title transistors comprise a meshed or comb-shaped gate electrode buried inside an **organic semiconductor layer** which is bound across between a source electrode and a drain electrode **laminated** in parallel. The **organic semiconductor layer** is made of field emission electroluminescence organic **semiconductor** material such as naphthalene, anthracene, tetracene, pentacene, hexacene, phthalocyanine compds., azo compds., perylene compds., triphenylmethane compds., stilbene compds., poly-N-vinylcarbazole, or polyvinylpyrene. The organic **semiconductor** gives the transistors increased electron mobility, increased power, and increased emission efficiency.

IT **120-12-7**, Anthracene, properties **258-31-1**, Hexacene
(organic electroluminescence **semiconductor**; organic electroluminescence transistors)

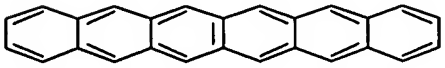
RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



RN 258-31-1 HCAPLUS

CN Hexacene (CA INDEX NAME)



IC ICM H05B033-26
ICS G09F009-30; H01L051-00; H05B033-12; H05B033-14

CC 76-3 (**Electric** Phenomena)

ST electroluminescence field emission org **semiconductor** transistor

IT Luminescent substances
(electroluminescent, organic **semiconductor**; organic electroluminescence transistors)

IT Azo compounds
(organic electroluminescence **semiconductor**; organic electroluminescence transistors)

IT **Semiconductor** materials
Transistors
(organic electroluminescence; organic electroluminescence transistors)

IT Field emission
(organic **semiconductor** materials for; organic electroluminescence transistors)

IT 126213-51-2, PEDOT

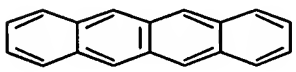
(hole injection **layer**; organic electroluminescence transistors)

IT 91-20-3, Naphthalene, properties **120-12-7**, Anthracene, properties 135-48-8, Pentacene 198-55-0, Perylene **258-31-1**, Hexacene 519-73-3, Triphenylmethane 574-93-6, Phthalocyanine 588-59-0, Stilbene 25067-59-8, Poly-N-vinylcarbazole 51134-09-9, Polyvinylpyrene 96638-49-2, Polyphenylenevinylene
(organic electroluminescence **semiconductor**; organic electroluminescence transistors)

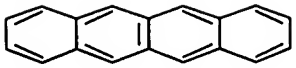
L44 ANSWER 33 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:472939 HCAPLUS Full-text
DOCUMENT NUMBER: 139:45745
TITLE: Design of a magnetoresistive element using an organic nonmagnetic **layer**
INVENTOR(S): Granstrom, Eric L.
PATENT ASSIGNEE(S): Seagate Technology LLC, USA
SOURCE: U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2003112564	A1	20030619	US 2002-306384 <--		20021127
PRIORITY APPLN. INFO.:			US 2001-333624P <--	P	20011127

ED Entered STN: 20 Jun 2003
AB The invention relates to the design of a magnetoresistive element using an organic nonmagnetic **layer**. A magnetoresistive element has two magnetic **layers** and a nonmagnetic middle **layer** having organic mols. disposed between the two magnetic **layers**. The middle **layer** is thinner than 5 nm. The magnetoresistive element exhibits a magnetoresistive effect as a function of the relative alignment of magnetizations of the first and the **second** magnetic **layers** and is used in a magnetoresistive sensor.
IT **92-24-0**, Tetracene **92-24-0D**, Tetracene, derivs.
(design of a magnetoresistive element using an organic nonmagnetic **layer**)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



IC ICM G11B005-127
ICS G11B005-33
INCL 360324120; 360324200
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 21, 38, **76**, 78
ST magnetoresistor org nonmagnetic **layer**
IT Polyacetylenes, uses
(derivs., organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Electrodeposition
Heating
Magnetic **films**
Magnetic memory devices
Magnetoresistors
Self-assembled monolayers
Semiconductor films
(design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Fullerenes
(design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Aromatic hydrocarbons, uses
Polyacenes
Polyacetylenes, uses
Polyanilines
Polydiacetylenes
Polyphenyls
(organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Conducting polymers
(polyfurans, organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Conducting polymers
(polypyrroles, organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Conducting polymers
(polythiophenes, organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Sublimation
(resublimation, deposition by; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Polymers, uses
(**semiconducting**; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Coating process
(spin; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT Vapor deposition process
(vacuum; design of a magnetoresistive element using an organic nonmagnetic **layer**)
IT **92-24-0**, Tetracene **92-24-0D**, Tetracene, derivs.
129-00-0, Pyrene, uses 129-00-0D, Pyrene, derivs. 135-48-8, Pentacene 135-48-8D, Pentacene, derivs. 191-07-1, Coronene

191-07-1D, Coronene, derivs. 198-55-0, Perylene 198-55-0D, Perylene, derivs. 218-01-9, Chrysene 218-01-9D, Chrysene, derivs.
(design of a magnetoresistive element using an organic nonmagnetic **layer**)

IT 25013-01-8, Polypyridine 25013-01-8D, Polypyridine, derivs. 25067-58-7, Polyacetylene 25067-58-7D, Polyacetylene, derivs. 26571-64-2, Polyvinylene 26571-64-2D, Polyvinylene, derivs. 99685-96-8, Buckminsterfullerene 99685-96-8D, Buckminsterfullerene, derivs.
(organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)

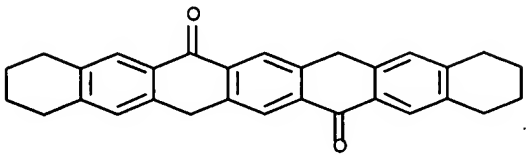
IT 147-14-8, Copper phthalocyanine 14074-80-7, Tetraphenylporphine zinc chelate 14154-42-8, Aluminum phthalocyanine chloride 79079-35-9
(organic **layer**; design of a magnetoresistive element using an organic nonmagnetic **layer**)

L44 ANSWER 34 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:435364 HCAPLUS Full-text
DOCUMENT NUMBER: 139:15943
TITLE: Design of **semiconductor** devices composed of pentacene derivatives
INVENTOR(S): Smith, Terrance P.; Vogel, Dennis E.; Vogel, Kim M.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S. Pat. Appl. Publ., 19 pp., Cont.-in-part of U.S. Ser. No. 966,961.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

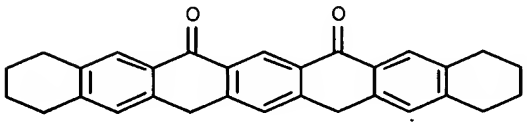
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003105365	A1	20030605	US 2002-256616 <--	20020927
US 6864396	B2	20050308		
CN 1582506	A	20050216	CN 2002-822123 <--	20020927
AT 331304	T	20060715	AT 2002-763754 <--	20020927
PRIORITY APPLN. INFO.:			US 2001-966961 <--	A2 20010927

OTHER SOURCE(S): MARPAT 139:15943
ED Entered STN: 06 Jun 2003
AB The invention relates to the design of **semiconductor** devices composed of pentacene derivs. The substituted pentacene compds. consist of at least one substituent selected from electron-donating substituents and halogen substituents, where the substituents are each being bonded to a carbon atom of a terminal ring of pentacene, and are the only substituents, with the proviso that when the compound has only two substituents, both of which are Me or alkoxy, and one substituent is bonded to the number 2 carbon atom, the other substituent, if Me, is bonded to the number 1, 3, 4, 8, or 11 carbon atom and, if alkoxy, is bonded to the number 1, 3, 4, 8, 9, or 11 carbon atom; and with the further proviso that when the compound has only four substituents, all of which are alkoxy, the substituents are bonded to the nos. 2, 3, 9, and 10 carbon atoms.
IT **503603-50-7P 503603-51-8P**
(design of **semiconductor** devices composed of pentacene derivs.)

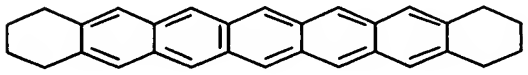
RN 503603-50-7 HCAPLUS
CN 6,15-Heptacenedione, 1,2,3,4,8,10,11,12,13,17-decahydro- (9CI) (CA INDEX NAME)



RN 503603-51-8 HCAPLUS
CN 6,8(1H,11H)-Heptacenedione, 2,3,4,10,12,13,15,17-octahydro- (9CI) (CA INDEX NAME)



IT **503603-30-3P**, 1,2,3,4,10,11,12,13-Octahydroheptacene
(design of **semiconductor** devices composed of pentacene derivs.)
RN 503603-30-3 HCAPLUS
CN Heptacene, 1,2,3,4,10,11,12,13-octahydro- (9CI) (CA INDEX NAME)



IC ICM C07C039-24
INCL 568774000
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25
ST **semiconductor** device pentacene deriv
IT **Semiconductor** devices
Thin film transistors
(design of **semiconductor** devices composed of pentacene derivs.)
IT 7440-05-3, Palladium, uses 7446-70-0, Aluminum chloride, uses
(design of **semiconductor** devices composed of pentacene derivs.)
IT 64-19-7, Acetic acid, processes 76-05-1, Trifluoroacetic acid, processes 1493-13-6, Trifluoromethanesulfonic acid 7647-01-0, Hydrochloric acid, processes 16940-66-2, Sodium borohydride
(design of **semiconductor** devices composed of pentacene derivs.)
IT 135-48-8D, Pentacene, substituted by electron-donating groups and

halogen 503603-71-2, 2,10-Dihexylpentacene 503603-72-3, Pentacene, 2,10-dinonyl 503603-73-4, Pentacene, 2,10-Didodecyl 503603-74-5, Pentacene, 2,10-bis(1-methylpropyl)- 503603-75-6, Pentacene, 2,10-bis(3,5,5-trimethylhexyl) 503603-76-7, Pentacene, 2,10-bis(2-ethylhexyl)
(design of **semiconductor** devices composed of pentacene derivs.)

IT 503603-27-8P, 2,9-Dihexylpentacene 503603-28-9P, 2,9-Dinonylpentacene 503603-29-0P, Pentacene, 2,9-Didodecyl 503603-31-4P, 2,9-Di-sec-butylpentacene 503603-33-6P, 2,9-Di-3,5,5-trimethylhexylpentacene 503603-34-7P, 2,9-Di-2-ethylhexylpentacene
(design of **semiconductor** devices composed of pentacene derivs.)

IT 89-32-7, Benzene-1,2,4,5-tetracarboxylic acid dianhydride 123-01-3, 1-Dodecylbenzene 1077-16-3, Hexylbenzene 7087-68-5, Diisopropylethylamine 36727-29-4, 3,5,5-Trimethylhexanoyl chloride 52497-39-9 503603-59-6, Benzene, 3,5,5-Trimethylhexyl- 503603-66-5, 2,5-Bis(4-methylbenzoyl)terephthalic acid 536724-82-0
(design of **semiconductor** devices composed of pentacene derivs.)

IT 503603-37-0P, 2,5-Bis(4-hexylbenzoyl)terephthalic Acid 503603-38-1P, 2,5-Bis(4-hexylbenzyl)terephthalic Acid 503603-39-2P, 3,10-Dihexyl-7,14-dihydropentacene-5,12-dione 503603-40-5P, 2,5-Bis(4-nonylbenzoyl)terephthalic Acid 503603-41-6P, 2,5-Bis(4-nonylbenzyl)terephthalic Acid 503603-42-7P, 7,14-Dihydro-3,10-dinonylpentacene-5,12-dione 503603-43-8P, 2,5-Bis(4-dodecylbenzoyl)terephthalic Acid 503603-44-9P, 2,5-Bis(4-dodecylbenzyl)terephthalic Acid 503603-45-0P, 3,10-Didodecyl-7,14-dihydropentacene-5,12-dione 503603-46-1P, 2,5-Bis(5,6,7,8-tetrahydronaphthalene-2-carbonyl)terephthalic Acid 503603-47-2P, 4,6-Bis(5,6,7,8-tetrahydronaphthalene-2-carbonyl)isophthalic acid 503603-48-3P, 2,5-Bis(5,6,7,8-tetrahydronaphthalen-2-ylmethyl)terephthalic Acid 503603-49-4P, 4,6-Bis(5,6,7,8-tetrahydronaphthalen-2-ylmethyl)isophthalic acid **503603-50-7P** **503603-51-8P** 503603-52-9P, 2,5-Bis(4-sec-butylbenzoyl)terephthalic Acid 503603-53-0P, 2,5-Bis(4-sec-butylbenzyl)terephthalic acid 503603-54-1P, 3,10-Di-sec-butyl-7,14-dihydropentacene-5,12-dione 503603-55-2P, 2,5-Bis(2,5-dimethylbenzoyl)terephthalic Acid 503603-56-3P 503603-57-4P, 7,14-Dihydro-1,4,8,11-Tetramethylpentacene-5,12-dione 503603-58-5P 503603-60-9P, 2,5-Bis(4-(3,5,5-trimethylhexyl)benzoyl)terephthalic acid 503603-62-1P, 7,14-Dihydro-3,10-(3,5,5-trimethylhexyl)pentacene-5,12-dione 503603-63-2P, 2,5-Bis(4-(2-ethylhexyl)benzoyl)terephthalic acid 503603-64-3P, 2,5-Bis(4-(2-ethylhexyl)benzyl)terephthalic acid 503603-65-4P, 3,10-Di(2-ethylhexyl)-7,14-dihydropentacene-5,12-dione 503603-67-6P, 2,5-Bis(4-methylbenzyl)terephthalic Acid 503603-68-7P, 7,14-Dihydro-3,10-dimethylpentacene-5,12-dione 503603-69-8P, 4,6-Bis(4-methylbenzyl)isophthalic Acid 503603-70-1P, 3,9-Dimethylpentacene-5,7(12H,14H)-dione
(design of **semiconductor** devices composed of pentacene derivs.)

IT **503603-30-3P**, 1,2,3,4,10,11,12,13-Octahydroheptacene 503603-32-5P, 1,4,8,11-Tetramethylpentacene 503603-35-8P, 2,9 Dimethylpentacene 503603-36-9P, 2,10 Dimethylpentacene
(design of **semiconductor** devices composed of pentacene derivs.)

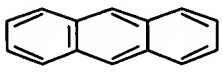
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE

RE FORMAT

L44 ANSWER 35 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:413922 HCAPLUS Full-text
DOCUMENT NUMBER: 139:14699
TITLE: Environmentally-stable organic electroluminescent fibers
INVENTOR(S): Duggal, Anil Raj; Olson, Daniel Robert
PATENT ASSIGNEE(S): General Electric Company, USA
SOURCE: U.S. Pat. Appl. Publ., 21 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

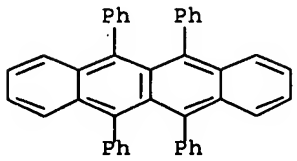
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003099858	A1	20030529	US 2001-683139 <--	20011127
US 6753096	B2	20040622		
US 2004212301	A1	20041028	US 2004-846878 <--	20040517
US 6855027	B2	20050215		
PRIORITY APPLN. INFO.:			US 2001-683139 <--	A3 20011127

ED Entered STN: 30 May 2003
AB Flexible organic electroluminescent fibers (OLEF) are described which comprise a core that comprises a first elec. conducting material forming a first electrode; ≥1 **layer** of ≥1 organic electroluminescent (EL) material formed on the first elec. conducting material; a **second** electrode **layer** of a **second** elec. conducting material forming a second electrode that is formed on the ≥1 **layer** of the ≥1 organic EL material; and ≥1 barrier **layer** formed over the second electrode, the barrier **layer** surrounding the ≥1 organic EL material and the second electrode and comprising a plurality of sublayers of a polymeric material and an inorg. material. The flexible OLEF may contain in addition an encapsulating **layer** formed over the ≥1 barrier and covering an entirety of the fiber; and a wavelength-adjusting **layer** that comprises ≥1 phosphor dispersed in a polymer, the wavelength-adjusting **layer** being disposed on a surface selected from the surface of the ≥1 barrier **layer** and the surface of the encapsulating **layer**. Methods for making flexible OLEF are also discussed as are apparatus for a continuous fabrication of a flexible OLEF.
IT **120-12-7**, Anthracene, uses **517-51-1**, Rubrene
28802-91-7, Phenylanthracene
(electroluminescent material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)

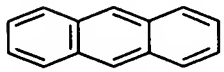


RN 517-51-1 HCAPLUS

CN Naphthacene, 5,6,11,12-tetraphenyl- (CA INDEX NAME)



RN 28802-91-7 HCAPLUS
CN Anthracene, phenyl- (8CI, 9CI) (CA INDEX NAME)



D1— Ph

IC ICM H05B033-00
INCL 428690000; 428917000; 428373000; 428378000; 428401000; 313504000; 313506000; 313511000; 313512000; 313112000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 74, **76**, 78
ST environmentally stable org electroluminescent fiber OLED fabrication; org electroluminescent device fiber shape polymer inorg **multilayer** barrier
IT Transition metal nitrides
(Group IIIB element, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
IT Acrylic polymers, uses
Group IVB element nitrides
Nitrides
Oxides (inorganic), uses
Polyesters, uses
(barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
IT Metals, uses
(core, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
IT Glass, uses
(core; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
IT Polysilanes
(derivs. and copolymers, electroluminescent material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)
IT Electroluminescent devices
(displays, fiber-shaped; environmentally-stable fiber-shaped organic

electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Luminescent screens
(electroluminescent, fiber-shaped; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Epoxy resins, uses
Polysiloxanes, uses
(encapsulating **layer**; for continuous fabrication of flexible OLEF)

IT Composites
Electronic packages
Semiconductor device fabrication
(environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Polymers, uses
(environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Electroluminescent devices
(fiber-shaped; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Coating materials
(impermeable, environmental barrier; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Materials
(inorg.; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Group IIIB element pnictides
(nitrides, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Azo dyes
Cyanine dyes
(phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Cycloalkenes
Epoxides
(polymers, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Phosphors
(wavelength-adjusting coating; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT Dyes
(xanthene, phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 7440-05-3, Palladium, uses 7440-05-3D, Palladium, derivs. 7440-06-4, Platinum, uses 7440-06-4D, Platinum, derivs. 7440-50-8, Copper, uses 7440-50-8D, Copper, derivs. 7440-57-5, Gold, uses 7440-57-5D, Gold, derivs. 9002-85-1, Poly(vinylidene chloride) 9002-89-5, Poly(vinyl alcohol) 24981-14-4, Poly(vinyl fluoride) 25038-59-9, Polyethyleneterephthalate, uses 25722-33-2D, Parylene, derivs. 93409-71-3, Glyoxal-vinyl alcohol copolymer
(barrier **layer**; environmentally-stable fiber-shaped organic

electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 1306-19-0, Cadmium oxide, uses 1309-48-4, Magnesium oxide, uses 1344-28-1, Aluminum oxide, uses 7631-86-9, Silica, uses 11105-01-4, Silicon oxynitride 12033-89-5, Silicon nitride, uses
(barrier **layer**; for continuous fabrication of flexible OLEF)

IT 12027-88-2, Yttrium silicate (Y2SiO5) 13709-90-5, Gadolinium borate (GdBO3)
(cerium-, terbium-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 91-64-5, Coumarin
(electroluminescent material, dyes, phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 74-85-1D, Ethene, tetraaryl **120-12-7**, Anthracene, uses 191-07-1, Coronene 198-55-0, Perylene **517-51-1**, Rubrene 2085-33-8, Tris(8-quinolinolato)aluminum III 13963-57-0, Aluminum acetylacetonate 14405-43-7, Gallium, tris(2,4-pentanedionato-κO,κO')-, (OC-6-11)- 14405-45-9, Indium acetylacetonate 25067-59-8, Poly (n-vinylcarbazole) 25067-59-8D, Poly (n-vinylcarbazole), derivs. and copolymers 25190-62-9, Poly(1,4-phenylene) 25190-62-9D, Poly(1,4-phenylene), derivs. and copolymers 27236-84-6, Tetraphenylbutadiene **28802-91-7**, Phenylanthracene 95270-88-5D, Polyfluorene, derivs. and copolymers 153521-90-5, 1,3,5-Tris[n-(4-diphenylaminophenyl) phenylamino] benzene
(electroluminescent material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 99533-22-9, Calcium magnesium chloride silicate (Ca8MgCl2(SiO4)4)
(europium, manganese-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 1314-36-9, Yttrium oxide (Y2O3), uses
(europium-, bismuth-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 13812-81-2, Strontium pyrophosphate (Sr2P2O7)
(europium-, manganese-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 55134-50-4, Aluminum barium magnesium oxide (Al16BaMg2O27)
(europium-doped or europium-, manganese-codoped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 20644-06-8, Magnesium strontium pyrophosphate (MgSrP2O7) 494201-99-9, Gadolinium vanadium yttrium borate oxide ((Gd,Y)V0-1(BO3)0-1O1-4) 533920-59-1, Strontium chloride phosphate (Sr5Cl2(PO4)10)
(europium-doped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 7429-90-5, Aluminum, uses 7429-90-5D, Aluminum, alloy 7440-22-4, Silver, uses 7440-22-4D, Silver, alloy
(first **conducting** material, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 7440-45-1, Cerium, uses
(first conducting material, phosphor dopant; environmentally-stable

fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 7439-91-0, Lanthanum, uses 7439-91-0D, Lanthanum, alloy 7439-93-2, Lithium, uses 7439-93-2D, Lithium, alloy 7439-95-4, Magnesium, uses 7439-95-4D, Magnesium, alloy 7440-09-7, Potassium, uses 7440-09-7D, Potassium, alloy 7440-23-5, Sodium, uses 7440-23-5D, Sodium, alloy 7440-24-6, Strontium, uses 7440-24-6D, Strontium, alloy 7440-31-5, Tin, uses 7440-31-5D, Tin, alloy 7440-39-3, Barium, uses 7440-39-3D, Barium, alloy 7440-45-1D, Cerium, alloy 7440-66-6, Zinc, uses 7440-66-6D, Zinc, alloy 7440-67-7, Zirconium, uses 7440-67-7D, Zirconium, alloy 7440-70-2, Calcium, uses 7440-70-2D, Calcium, alloy 7440-74-6, Indium, uses 7440-74-6D, Indium, alloy
(first conducting material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 12159-91-0, Germanium magnesium fluoride oxide (Ge2Mg8F2O11)
(manganese-doped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 7439-96-5, Manganese, uses 7440-27-9, Terbium, uses 7440-53-1, Europium, uses 7440-69-9, Bismuth, uses
(phosphor dopant; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 198-55-0D, Perylene, derivs. 33941-07-0D, Pyran, derivs. 60475-00-5D, Thiopyran, derivs. 73467-76-2D, Benzopyrene, derivs. 132615-42-0, Aluminum cerium yttrium oxide (Al5(Ce,Y)3O12) 352033-92-2 352033-93-3 494201-96-6, Aluminum cerium gadolinium yttrium oxide (Al5(Ce,Gd,Y)3O12) 494201-97-7, Aluminum cerium gallium yttrium oxide ((Al,Ga)5(Ce,Y)3O12)
(phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 1312-43-2, Indium oxide 1314-13-2, Zinc oxide, uses 1332-29-2, Tin oxide 50926-11-9, Indium tin oxide
(second **conducting** material, barrier **layer**; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 117944-65-7, Indium zinc oxide
(second conducting material; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

IT 55070-88-7, Aluminum cerium magnesium oxide (Al11CeMgO19)
(terbium-doped phosphor; environmentally-stable fiber-shaped organic electroluminescent devices employing polymer/inorg. barrier **multilayer**)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 36 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:377210 HCAPLUS Full-text
DOCUMENT NUMBER: 138:377320
TITLE: Organic thin **film** transistor with polymeric interface
INVENTOR(S): Kelley, Tommie W.; Boardman, Larry D.; Dunbar, Timothy D.; Jones, Todd D.; Muyres, Dawn V.; Pellerite, Mark J.; Smith, Terrance P.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA

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=> d his nofile

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                SEL RN

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                317809-68-0/BI OR 373596-08-8/BI OR 373596-09-9/BI OR
                398128-81-9/BI OR 6006-83-3/BI OR 607387-98-4/BI OR
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L15             STR
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L25          287 SEA ABB=ON  PLU=ON  L17
L26          145 SEA ABB=ON  PLU=ON  L22
L27           42 SEA ABB=ON  PLU=ON  (L25 OR L26) AND ELECTRIC?/SC,SX
L28         4243 SEA ABB=ON  PLU=ON  (L23 OR L24) AND ELECTRIC?/SC,SX
L29          859 SEA ABB=ON  PLU=ON  L28 AND (SEMICONDUCT? OR SEMI(A)COMDUCT
                ?)
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L31           15 SEA ABB=ON  PLU=ON  L27 AND (SEMICONDUCT? OR SEMI(A)COMDUCT
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                OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?  OR OVERLAID?
                 OR MULTILAYER?)
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                E SEMICONDUCTOR FILMS/CT
L34         7472 SEA ABB=ON  PLU=ON  "SEMICONDUCTOR FILMS"+PFT,NT,NEW,OLD/CT
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SOURCE: PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

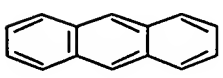
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003041185	A2	20030515	WO 2002-US33872 <--	20021023
WO 2003041185	A3	20031106		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003102471	A1	20030605	US 2001-12654 <--	20011105
US 6946676	B2	20050920		
AU 2002337959	A1	20030519	AU 2002-337959 <--	20021023
EP 1442484	A2	20040804	EP 2002-773864 <--	20021023
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005509298	T	20050407	JP 2003-543117 <--	20021023
US 2006011909	A1	20060119	US 2005-227547 <--	20050915
PRIORITY APPLN. INFO.:			US 2001-12654 A <--	20011105
			WO 2002-US33872 W <--	20021023

ED Entered STN: 16 May 2003

AB Provided is an organic thin **film** transistor with improved carrier mobility and low cost fabrication comprising a polymeric **layer** interposed between a gate dielec. and an **organic semiconductor layer**. Various homopolymers, copolymers, and functional copolymers are claimed for use in the polymeric **layer**. An integrated circuit comprising a multiplicity of thin **film** transistors and methods of making a thin **film** transistor are also provided. The organic thin **film** transistors of the invention typically exhibit improvement in one or more transistor properties.

IT **120-12-7**, Anthracene, processes
(organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)

RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



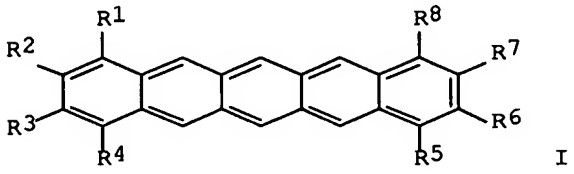
IC ICM H01L051-20
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38
IT Polymers, processes
(aromatic; organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
IT Integrated circuits
Semiconductor films
Thin **film** transistors
(organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
IT Fullerenes
Polyacenes
(organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
IT Polymers, properties
(organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
IT Conducting polymers
(polythiophenes, ooligomers; organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
IT Coating process
(spin; organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
IT 74-86-2D, Acetylene, derivs. 13177-38-3, Cyclopentadienone
(organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
IT 109-27-3, Tetracene **120-12-7**, Anthracene, processes
135-48-8, Pentacene 135-48-8D, Pentacene, derivs. 198-55-0, Perylene 574-93-6, Phthalocyanine 9003-17-2, Polybutadiene 9003-20-7, Polyvinyl acetate 9003-53-6, Polystyrene 9011-14-7, PMMA 9042-43-7, Polyvinylnaphthalene 14916-87-1 25036-01-5, Polyacenaphthylene 25038-76-0, Polynorbornene 25067-06-5, Poly(1-hexene) 25722-33-2, Parylene 88493-55-4, Sexithiophene 95270-88-5, Polyfluorene
(organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)
IT 26949-20-2P, Styrene-3-methacryloxypropyltrimethoxysilane copolymer 36785-89-4P, Styrene-3-mercaptopropyltrimethoxysilane copolymer 76701-84-3P, Styrene-vinylphosphonic acid copolymer 252338-38-8P, 5-Hexylnorbornene-5-(triethoxysilyl)norbornene copolymer
(organic thin **film** transistor with polymeric interface between gates and organic **semiconductor films**)

L44 ANSWER 37 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:262124 HCAPLUS Full-text
DOCUMENT NUMBER: 138:271405
TITLE: Preparation of dialkylpentacenes as **semiconductor** materials
INVENTOR(S): Smith, Terrance P.; Vogel, Dennis E.; Vogel, Kim M.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003028125	A2	20030403	WO 2002-US30704 <--	20020927
WO 2003028125	A3	20030703		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002327747	A1	20030407	AU 2002-327747 <--	20020927
EP 1433211	A2	20040630	EP 2002-763754 <--	20020927
EP 1433211	B1	20060621		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1582506	A	20050216	CN 2002-822123 <--	20020927
JP 2005504811	T	20050217	JP 2003-531543 <--	20020927
AT 331304	T	20060715	AT 2002-763754 <--	20020927
PRIORITY APPLN. INFO.:			US 2001-966961 A <--	20010927
			WO 2002-US30704 W <--	20020927

OTHER SOURCE(S): MARPAT 138:271405
ED Entered STN: 04 Apr 2003
GI



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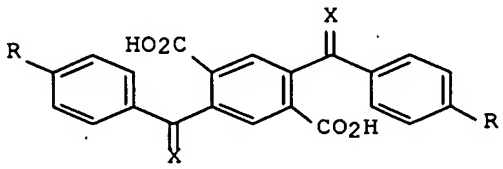


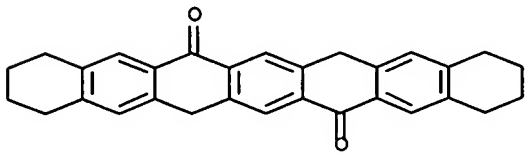
II

AB Substituted pentacene compds. I (R1-R8 = independently H, halo, electron-donating group) are prepared and tested for use in organic thin film transistors. The prepared pentacene derivs. exhibit charge-carrier mobilities comparable to pentacene and exhibit more reproducible performance characteristics than those of pentacene-based devices. Exposure to common organic solvents, such as isopropanol, does not significantly alter the electronic properties of the devices, and many of the prepared pentacene derivs. are more soluble then pentacene in organic solvents. Thus, double Friedel-Crafts arylation of pyromellitic anhydride with hexylbenzene in the presence of AlCl3 and diisopropylethylamine in 1,2-dichloroethane gave adduct II (R = n-hexyl, X = O), which underwent catalytic reduction with H2 and 5% Pd/C to give II (R = n-hexyl, X = H2) (III). Cyclization of III with CF3CO2H gave the corresponding dihydropentacenedione, which underwent reduction with NaBH4 and dehydration with AcOH and HCl to give 2,9-dihexylpentacene (I; R1 = R3 = R4 = R5 = R7 = R8 = H; R2 = R6 = n-hexyl).

IT **503603-50-7P 503603-51-8P**
(preparation of dialkylpentacenes as **semiconductor** materials)

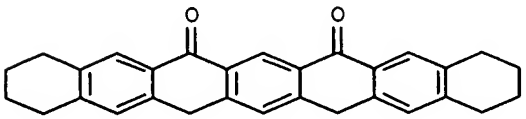
RN 503603-50-7 HCAPLUS

CN 6,15-Heptacenedione, 1,2,3,4,8,10,11,12,13,17-decahydro- (9CI) (CA INDEX NAME)



RN 503603-51-8 HCAPLUS

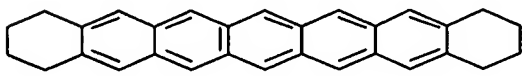
CN 6,8(1H,11H)-Heptacenedione, 2,3,4,10,12,13,15,17-octahydro- (9CI) (CA INDEX NAME)



IT **503603-30-3P**
(preparation of dialkylpentacenes as **semiconductor** materials)

RN 503603-30-3 HCAPLUS

CN Heptacene, 1,2,3,4,10,11,12,13-octahydro- (9CI) (CA INDEX NAME)



IC ICM H01L051-30

CC 25-28 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): **76**

ST org thin film transistor material dialkylpentacene prepn; pentacene dialkyl prepn soly **semiconductor** material; soly dialkylpentacene prepn **semiconductor** material

IT Thin film transistors
(organic; preparation of dialkylpentacenes as **semiconductor** materials)

IT Solubility
(solubility of dialkylpentacenes for use in **semiconductor** materials)

IT 503603-71-2 503603-72-3 503603-73-4 503603-74-5 503603-75-6 503603-76-7
(preparation of dialkylpentacenes as **semiconductor** materials)

IT 503603-35-8P
(preparation of dialkylpentacenes as **semiconductor** materials)

IT 503603-27-8P 503603-28-9P 503603-29-0P 503603-33-6P 503603-36-9P
(preparation of dialkylpentacenes as **semiconductor** materials)

IT 503603-31-4P 503603-34-7P
(preparation of dialkylpentacenes as **semiconductor** materials)

IT 71-43-2, Benzene, reactions 89-32-7, Pyromellitic dianhydride 106-42-3, p-Xylene, reactions 119-64-2, 1,2,3,4-Tetrahydronaphthalene 123-01-3, Dodecylbenzene 135-98-8, sec-Butylbenzene 1077-16-3, Hexylbenzene 17180-41-5 36727-29-4, 3,5,5-Trimethylhexanoyl chloride 52497-39-9 503603-66-5
(preparation of dialkylpentacenes as **semiconductor** materials)

IT 5617-39-0P 503603-37-0P 503603-38-1P 503603-39-2P 503603-40-5P 503603-41-6P 503603-42-7P 503603-43-8P 503603-44-9P 503603-45-0P 503603-46-1P 503603-47-2P 503603-48-3P 503603-49-4P **503603-50-7P 503603-51-8P** 503603-52-9P 503603-53-0P 503603-54-1P 503603-55-2P 503603-56-3P 503603-57-4P 503603-58-5P 503603-59-6P 503603-60-9P 503603-61-0P 503603-62-1P 503603-63-2P 503603-64-3P 503603-65-4P 503603-67-6P 503603-68-7P 503603-69-8P 503603-70-1P
(preparation of dialkylpentacenes as **semiconductor** materials)

IT **503603-30-3P** 503603-32-5P
(preparation of dialkylpentacenes as **semiconductor** materials)

L44 ANSWER 38 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:255085 HCAPLUS Full-text
DOCUMENT NUMBER: 138:246983
TITLE: Organic **semiconductor film** preparation and use in field effect transistors
INVENTOR(S): Chowdhuri, Abhijit R.; Zhang, Jie; Gamota, Daniel R.
PATENT ASSIGNEE(S): Motorola, Inc., USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6541300	B1	20030401	US 2002-58704 <--	20020128
WO 2003065409	A2	20030807	WO 2002-US41765 <--	20021231

WO 2003065409 A3 20031016
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1472718 A2 20041103 EP 2002-794455 20021231
<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
CN 1618135 A 20050518 CN 2002-827690 20021231
<--
PRIORITY APPLN. INFO.: US 2002-58704 A 20020128
<--
WO 2002-US41765 W 20021231
<--

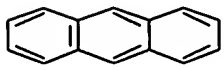
ED Entered STN: 03 Apr 2003

AB The present invention is directed to **semiconductor films** and a process for their preparation The **semiconductor** organic material is blended with a multicomponent solvent blend having a combined polarity within a defined range. The blend of **semiconductor** organic material and multicomponent solvent blend is effective for providing a highly ordered **semiconductor film** having an improved mobility and for providing a device having improved on/off ratio characteristics. The blend is deposited on a receiving material to provide a continuous highly ordered **film** having greater periodicity than **films** produced with a single solvent/**semiconducting** material blend under similar processing conditions.

IT **120-12-7D**, Anthracene, 2,3,6,7-Tetracarboxylic acid diimide derivs.
(organic **semiconductor** material; organic **semiconductor film** preparation and use in field effect transistors)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM H01L051-40

INCL 438099000; X25-7 4.0

CC 76-3 (**Electric** Phenomena)

ST org **semiconductor film** field effect transistor

IT Imides
(diimides, tetracarboxylic acids, organic **semiconductor** material; organic **semiconductor film** preparation and use in field effect transistors)

IT **Semiconductor** device fabrication
Semiconductor films
(organic **semiconductor film** preparation and use in field effect transistors)

IT Polyanilines

(organic **semiconductor** material; organic **semiconductor film** preparation and use in field effect transistors)

IT Field effect transistors
(organic; organic **semiconductor film** preparation and use in field effect transistors)

IT Conducting polymers
(polythiophenes, organic **semiconductor** material; organic **semiconductor film** preparation and use in field effect transistors)

IT Carboxylic acids, uses
(tetra, diimide-, organic **semiconductor** material; organic **semiconductor film** preparation and use in field effect transistors)

IT 75-20-7, Calcium carbide 7631-99-4, Sodium nitrate, uses 7647-14-5, Sodium chloride, uses 7778-54-3, Calcium hypochlorite 12712-38-8, Potassium borate 13840-56-7, Sodium borate 16893-85-9, Sodium fluorosilicate
(multicomponent solvent blend containing; organic **semiconductor film** preparation and use in field effect transistors)

IT 110134-47-9, Poly (3-hexylthiophene-2,5-diyl)
(organic **film** solvent; organic **semiconductor film** preparation and use in field effect transistors)

IT 56-23-5, Carbontetrachloride, processes 64-17-5, Ethanol, processes 67-56-1, Methanol, processes 67-63-0, 2-Propanol, processes 67-64-1, Acetone, processes 67-66-3, Chloroform, processes 71-23-8, 1-Propanol, processes 71-36-3, 1-Butanol, processes 71-43-2, Benzene, processes 75-09-2, Methylene chloride, processes 75-65-0, t-Butanol, processes 78-93-3, 2-Butanone, processes 108-88-3, Toluene, processes 109-99-9, Tetrahydrofuran, processes 1330-20-7, Xylene, processes
(organic **film** solvent; organic **semiconductor film** preparation and use in field effect transistors)

IT 91-20-3D, Naphthalene, dithiophene derivs. 110-02-1D, Thiophene, anthracene derivs. 110-02-1D, Thiophene, naphthalene derivs. **120-12-7D**, Anthracene, 2,3,6,7-Tetracarboxylic acid diimide derivs. **120-12-7D**, Anthracene, dithiophene derivs. 135-48-8, Pentacene 574-93-6D, Phthalocyanine, derivs. 66280-99-7, Poly(thienylenevinylene) 96638-49-2, Poly(phenylenevinylene)
(organic **semiconductor** material; organic **semiconductor film** preparation and use in field effect transistors)

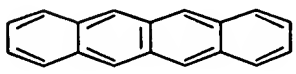
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 39 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:154660 HCAPLUS Full-text
DOCUMENT NUMBER: 138:197055
TITLE: Organic **semiconductor** components with pentacene-coated transistor **films**
INVENTOR(S): Minakata, Takashi
PATENT ASSIGNEE(S): Asahi Kasei Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 67 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

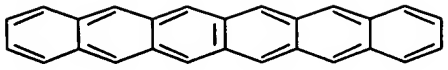
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2003016599 A1 20030227 WO 2002-JP8070 20020807
<--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
AU 2002327354 A1 20030303 AU 2002-327354 20020807
<--
EP 1416069 A1 20040506 EP 2002-760569 20020807
<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
CN 1541288 A 20041027 CN 2002-815611 20020807
<--
US 2005258417 A1 20051124 US 2004-486276 20040209
<--
US 7061010 B2 20060613
PRIORITY APPLN. INFO.: JP 2001-242808 A 20010809
<--
WO 2002-JP8070 W 20020807
<--

OTHER SOURCE(S): MARPAT 138:197055
ED Entered STN: 28 Feb 2003
AB An organic **semiconductor** thin **film** suitably employed in electronics, photonics, or bioelectronics and a method for forming the thin **films** thereof. An organic **semiconductor** solution as the material in formation of the organic **semiconductor** thin **film**, and an organic **semiconductor** component employing the organic **semiconductor** thin **film** are also provided. The transistor is obtained by forming a gate electrode, an insulator **layer**, a source electrode, and drain electrodes sequentially on a glass substrate and then applying o-dichlorobenzene solution of pentacene (0.05% by mass) and drying thereby forming an organic **semiconductor** thin **film**. Since the organic **semiconductor** thin **film** can be formed easily at a low cost and has substantially no defect, a transistor having excellent electronic characteristics can be provided.
IT **92-24-0**, Naphthacene **258-31-1**, Hexacene
(**semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 258-31-1 HCAPLUS
CN Hexacene (CA INDEX NAME)



IC ICM C30B029-54
ICS C30B007-06; H01L029-786; H01L051-00
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 25
ST pentacene soln coating drying org **semiconductor film** transistor
IT Thin **film** transistors
(by coating organic **semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
IT Drying
(coated thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
IT Polyacenes
(for **semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
IT Electric conductivity
Semiconductor materials
X-ray diffractometry
(organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
IT Coating materials
(pentacene, for **semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
IT Polyesters, properties
(**semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
IT 135-48-8P, Pentacene
(organic **semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
IT 25038-59-9P, Polyethylene terephthalate, properties 76727-11-2P, 6,13-Diphenylpentacene 317809-68-0P, 6,13-Bis(trimethylsilylethynyl)pentacene 373596-08-8P, 6,13-Bis(triisopropylsilylethynyl)pentacene 499138-96-4P, 2,3,9,10-Tetramethylpentacene 499138-97-5P 499138-98-6P 499138-99-7P 499139-00-3P 499139-01-4P 499139-02-5P
(**semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
IT **92-24-0**, Naphthacene **258-31-1**, Hexacene
(**semiconductor** thin **film**; organic **semiconductor** components prepared by coating with pentacene-coated transistor **films**)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 40 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:77368 HCAPLUS Full-text
DOCUMENT NUMBER: 138:144826
TITLE: Methods for producing electroluminescent devices by screen printing
INVENTOR(S): Epstein, Arthur J.; Wang, Yunzhang Z.
PATENT ASSIGNEE(S): The Ohio State University, USA
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003022020	A1	20030130	US 2002-196523 <--	20020716
CA 2454743	A1	20030213	CA 2002-2454743 <--	20020701
WO 2003012885	A1	20030213	WO 2002-US20965 <--	20020701
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002316513	A1	20030217	AU 2002-316513 <--	20020701
EP 1419536	A1	20040519	EP 2002-746822 <--	20020701
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005526353	T	20050902	JP 2003-517958 <--	20020701

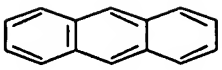
PRIORITY APPLN. INFO.:
US 2001-308276P P 20010727 <--
WO 2002-US20965 W 20020701 <--

ED Entered STN: 31 Jan 2003

AB Methods for preparing a **layered** composite capable of forming a light-emitting device are discussed which entail obtaining a substrate material comprising a **layer** of an electrode material; forming on the substrate ≥1 emitting **layer** capable of functioning as a light-emitting **layer** in a light-emitting device; and applying a conductive paste material to the emitting **layer**, the **conductive** paste material comprising a **layer** of an electrode material. **Layered** composites capable of forming a light-emitting device as described above are also discussed. The conductive paste material may be applied by a technique selected from painting, spraying, and screen-printing.

IT **120-12-7**, Anthracene, uses
(light-emitting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)

RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)

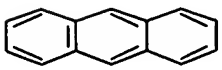


IC ICM H05B033-00
ICS B05D005-12
INCL 428690000; 427402000; 313504000; 313506000; 428917000; 427066000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, **76**
ST electroluminescent device screen printing **layered** composite **conductive** paste
IT Polyanilines
(buffer **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT Amines, uses
(diamines, aromatic, electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT Polyoxadiazoles
(electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT Conducting polymers
(polypyrroles, buffer **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT Conducting polymers
(polythiophenes, buffer **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT Conducting polymers
(**semiconducting** and; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT 15082-28-7
(electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT **120-12-7**, Anthracene, uses 220694-90-6
(light-emitting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT 25013-01-8, Poly(pyridine)
(light-emitting or electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT 2085-33-8, Tris(8-quinolinolato)aluminum
(light-emitting or electron-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)
IT 25067-59-8, Poly(vinylcarbazole)
(light-emitting or hole-transporting **layer**; methods for producing polymer electroluminescent devices by applying conductive paste material using methods such as screen printing)

L44 ANSWER 41 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:978278 HCAPLUS Full-text
DOCUMENT NUMBER: 138:64898
TITLE: Organic polarizable gate transistor apparatus and method of fabrication
INVENTOR(S): Dodabalapur, Ananth; Katz, Howard E.; Sarpeshkar, Rahul
PATENT ASSIGNEE(S): Lucent Technologies Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002195644	A1	20021226	US 2001-877844 <--	20010608
US 6870180	B2	20050322		
JP 2003046006	A	20030214	JP 2002-161699 <--	20020603
PRIORITY APPLN. INFO.:			US 2001-877844 A <--	20010608

ED Entered STN: 29 Dec 2002
AB An apparatus having a circuit coupled to the gate contact of a field effect transistor wherein the transistor's gate includes a dielec. **layer** of which at least a portion is an organic dielec. The circuit is configured to produce one or more storage voltage pulses that cause charge to be stored in the gate. The field effect transistor has a **semiconductor layer** with a **conductive** path whose conductivity changes for a given Vg in response to storing the charge. The circuit may produce one or more dissipation voltage pulses having a voltage of opposite sign to the one or more storage pulses, that cause dissipation of charge stored in the gate. Further disclosed are a memory and a method of electronically storing and reading information, both using the organic-based polarizable gate transistor apparatus
IT **120-12-7D**, Anthracene, polymer derivs.
(methacrylates; organic polarizable gate transistor apparatus and method of fabrication)
RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



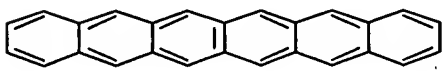
IC ICM H01L029-76
ICS H01L029-788
INCL 257314000; 257315000; 257317000; 257322000
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38
IT Ceramic composites
Fiber-reinforced composites
Field effect transistors
Gate contacts

Semiconductor memory devices
(organic polarizable gate transistor apparatus and method of fabrication)
IT Dielectric **films**
(organic; organic polarizable gate transistor apparatus and method of fabrication)
IT **120-12-7D**, Anthracene, polymer derivs.
(methacrylates; organic polarizable gate transistor apparatus and method of fabrication)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 42 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:778550 HCAPLUS Full-text
DOCUMENT NUMBER: 137:287334
TITLE: Flat electric-circuit resistors from copper foil precoated with organic **semiconductor** film
INVENTOR(S): Pankow, Joel W.; Centanni, Michael A.
PATENT ASSIGNEE(S): Ga-Tek Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 6 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002146556	A1	20021010	US 2001-825803 <--	20010404
PRIORITY APPLN. INFO.:			US 2001-825803 <--	20010404

ED Entered STN: 11 Oct 2002
AB The flat resistors are manufactured from Cu foil precoated on one side with a film of organic mol. **semiconductor** nominally 3-1000 Å thick. The **semiconductor** is typically based on metal-organic complexes with Pt, Ir, or Rh, aromatic hydrocarbons, or oriented graphite films. The **semiconductor** is optionally based on polymer films having charge-transfer compds.
IT **258-31-1**, Hexacene
(film, resistor foil with; flat elec.-circuit resistors from copper foil precoated with hydrocarbon film)
RN 258-31-1 HCAPLUS
CN Hexacene (CA INDEX NAME)



IC ICM B32B015-08
INCL 428336000
CC 76-2 (**Electric** Phenomena)
Section cross-reference(s): 38, 56
ST elec circuit flat resistor metal foil coating **semiconductor** film
IT Resistors

(coated foil for; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)

IT Metallophthalocyanines
(films, resistor foil with; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)

IT **Semiconductor** materials
(organic films, resistor foil with; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)

IT Charge transfer complexes
(polymer films with, on resistor foil; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)

IT 50-32-8, Benzopyrene, uses 81-31-2, Violanthrene 85-01-8, Phenanthrene, uses 91-20-3, Naphthalene, uses 92-24-0, Tetracene 120-12-7, Anthracene, uses 129-00-0, Pyrene, uses 135-48-8, Pentacene 190-26-1, Ovalene 191-07-1, Coronene 198-55-0, Perylene 217-59-4, Triphenylene 218-01-9, Chrysene **258-31-1**, Hexacene
(film, resistor foil with; flat elec.-circuit resistors from copper foil precoated with hydrocarbon film)

IT 574-93-6, Phthalocyanine
(film, resistor foil with; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)

IT 7440-50-8, Copper, uses
(foil; flat elec.-circuit resistors from copper foil precoated with organic **semiconductor** film)

L44 ANSWER 43 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:427805 HCAPLUS Full-text
DOCUMENT NUMBER: 136:409169
TITLE: Flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**
INVENTOR(S): Ishida, Masaya; Kawai, Hideyuki; Miyashita, Satoru; Shimoda, Tatsuya
PATENT ASSIGNEE(S): Seiko Epson Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

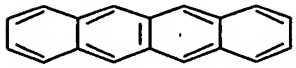
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002162651	A	20020607	JP 2000-357515 <--	20001124
PRIORITY APPLN. INFO.:			JP 2000-357515 <--	20001124

ED Entered STN: 07 Jun 2002
AB The invention relates to an electrophoretic display comprised of a transparent substrate, a transparent electrode **layer**, an electrophoretic microcapsule dispersion **layer**, and a **semiconductor** element **layer**, wherein the **semiconductor** element **layer** is made up of an organic **semiconductor** material. The electrophoretic microcapsule dispersion **layer** is formed by a roll coat method to achieve homogeneous dispersion.

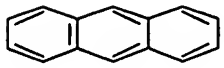
IT **92-24-0**, Tetracene **120-12-7**, Anthracene, processes
(organic **semiconductor**; flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**)

RN 92-24-0 HCAPLUS

CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



IC ICM G02F001-167
ICS G09F009-30; G09F009-37
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 42, **76**
ST electrophoretic display microcapsule dispersion **layer** roll coating org **semiconductor**
IT Optical imaging devices
(electrophoretic; flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**)
IT Microcapsules
(flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**)
IT Electrophoresis apparatus
(optical imaging; flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**)
IT Coating process
(roller; flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**)
IT **92-24-0**, Tetracene **120-12-7**, Anthracene, processes
135-48-8, Pentacene
(organic **semiconductor**; flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**)
IT 50926-11-9, ITO
(transparent electrode; flexible electrophoretic display with homogeneously formed electrophoretic microcapsule dispersion **layer**)

L44 ANSWER 44 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:185498 HCAPLUS Full-text
DOCUMENT NUMBER: 136:239990
TITLE: Integrated circuit having organic **semiconductor** and anodized gate dielectric
INVENTOR(S): Baude, Paul F.; Haase, Michael A.; Bench, Mike W.; Grillo, Donald C.

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002021613	A1	20020314	WO 2001-US925 <--	20010112

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

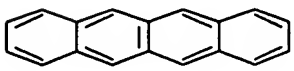
AU 2001027838	A5	20020322	AU 2001-27838 <--	20010112
PRIORITY APPLN. INFO.:			US 2000-655817 <--	A 20000906
			WO 2001-US925 <--	W 20010112

ED Entered STN: 15 Mar 2002

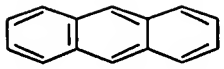
AB Disclosed is a method of making an integrated circuit comprising the steps of providing a substrate; providing a plurality of discrete regions of gate electrode material elec. connected by elec. conductive paths on the substrate; forming an elec. insulating **layer** on the gate electrode material by anodic oxidation; disconnecting a conductive path to at least one discrete region of gate electrode material; providing a source electrode and a drain electrode adjacent to the insulating **layer** on the gate electrode material in the discrete region, the source and drain electrodes having a space between them; and providing an **organic semiconductor layer** adjacent to the insulating **layer** and in elec. contact with the source and drain electrodes. The substrate is preferably flexible and polymeric.

IT **92-24-0**, Tetracene **120-12-7**, Anthracene, uses
(integrated circuit having organic **semiconductor** and anodized gate dielec.)

RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



IC ICM H01L051-20
CC 76-3 (**Electric** Phenomena)
ST org **semiconductor** anodized gate dielec integrated circuits
IT Electric insulators
Gate contacts
Integrated circuits
Interconnections, electric
Semiconductor device fabrication
Semiconductor materials
(integrated circuit having organic **semiconductor** and anodized gate dielec.)
IT Polyesters, uses
Polyimides, uses
(integrated circuit having organic **semiconductor** and anodized gate dielec.)
IT 91-20-3, Naphthalene, uses **92-24-0**, Tetracene 110-02-1, Thiophene **120-12-7**, Anthracene, uses 135-48-8, Pentacene 147-14-8, Copper phthalocyanine 1518-16-7, Tetracyanoquinodimethane 7429-90-5, Aluminum, uses 7439-95-4, Magnesium, uses 7440-03-1, Niobium, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-66-6, Zinc, uses
(integrated circuit having organic **semiconductor** and anodized gate dielec.)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 45 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:930103 HCAPLUS Full-text
DOCUMENT NUMBER: 136:46001
TITLE: Method for crystal growth from melts and functional devices of the **semiconductive** crystals or **semiconductors** prepared from the crystals
INVENTOR(S): Miyahara, Tomoko; Horiuchi, Kazunaga; Okada, Okimasa; Maruyama, Tatsuya; Shimizu, Masaaki
PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001353402	A	20011225	JP 2000-178011 <--	20000614
PRIORITY APPLN. INFO.:			JP 2000-178011 <--	20000614

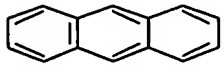
ED Entered STN: 26 Dec 2001
AB Raw materials for the crystals are dissolved in a solvent, which is solid at room temperature and having lower m.p. than the target crystal, by heating.

The initial crystal growth is carried out using a melt containing the crystal raw material of a supersatd. condition. Then the concentration of the raw material in the melt is decreased to an amount below saturation and then increased to a amount for supersatn. for re-growing of the crystal. The final process, of increasing and decreasing the raw material concentration may be carried out repeatedly. Devices comprising the **semiconductive** crystal or a **semiconductor layer** formed from the crystal and equipped with multiple nos. of electrodes are also claimed. The process is suitable for manufacture of devices using polycyclic aromatic compound crystals.

IT **120-12-7**, Anthracene, uses
(solvent in melts; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM B01D009-02
ICS B01D009-02; C09B067-48; C09B067-50; C30B009-08; C30B029-54; C07D487-22

CC 75-1 (Crystallography and Liquid Crystals)
Section cross-reference(s): 25, 26, **76**

ST **semiconductor** device polycyclic arom compd crystal; crystal growth melt raw material concn control

IT Polycyclic compounds
(aromatic; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT Crystal growth
Semiconductor devices
Semiconductor materials
Thin **film** transistors
(crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT Aromatic compounds
(polycyclic; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT Vapor deposition process
(**semiconductor** wafer manufacture from crystals; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinolato)aluminum 5521-31-3, N,N'-Dimethylperylene-3,4,9,10-bis(dicarboximide)
(crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

IT **120-12-7**, Anthracene, uses 129-00-0, Pyrene, uses
(solvent in melts; crystal growth of polycyclic aromatic compds., for **semiconductor** devices, from melts)

L44 ANSWER 46 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:546134 HCAPLUS Full-text
DOCUMENT NUMBER: 135:272675
TITLE: Nature of the Magnetic Interaction in Organic Radical Crystals. 5. Magnetic Interaction in Mixed

Radical Ion Crystals

AUTHOR(S): Dietz, F.; Tyutyulkov, N.; Staneva, M.; Baumgarten, M.; Muellen, K.

CORPORATE SOURCE: Wilhelm-Ostwald-Institut fuer Physikalische und Theoretische Chemie, Universitaet Leipzig, Leipzig, D-04109, Germany

SOURCE: Journal of Physical Chemistry B (**2001**), 105(33), 7972-7978
CODEN: JPCBFK; ISSN: 1089-5647

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 29 Jul 2001

AB The nature and magnitude of the spin exchange interaction within the half-filled band of 1-dimensional stacks of mixed radical ion crystals (MRIC) consisting of two hydrocarbons H1 and H2 with different ionization potentials and electron affinities were studied theor. In a fully reduced or oxidized 1-dimensional crystal, each elementary unit is an anion radical or a cation radical: (H1 ...H2)•- - - or - - (H1 ...H2)•+ - -. In contrast to organic radical cation (anion) crystals which consist of identical polycyclic hydrocarbons -(Hδ···Hδ)•+- or -(Hδ···Hδ)•-- with a metallic or **semiconducting** ground state, the ground state of some classes of MRICs is a magnetic one. The band theory of magnetic interaction in many electron π-systems is applied to calculate the different contributions of the effective Heisenberg exchange integral.

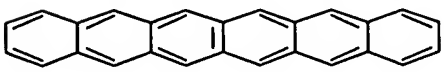
IT **363622-97-3**
(nature of magnetic interaction in organic radical crystals and magnetic interaction in mixed radical ion crystals)

RN 363622-97-3 HCAPLUS

CN Hexacene, compd. with naphthalene (1:1) (9CI) (CA INDEX NAME)

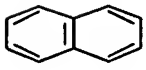
CM 1

CRN 258-31-1
CMF C26 H16



CM 2

CRN 91-20-3
CMF C10 H8



CC 22-13 (Physical Organic Chemistry)

Section cross-reference(s): **76**, 77

IT 91-20-3D, Naphthalene, 1:1 complex with naphthalene radical cation, properties 135-48-8D, Pentacene, 1:1 complex with pentacene radical ions 34483-84-6D, Pentacene radical anion, 1:1 complex with pentacene 34507-35-2D, Pentacene radical cation, 1:1 complex with pentacene 34512-27-1D, Naphthalene radical cation, 1:1 complex with naphthalene, properties 112797-83-8 112797-86-1 133700-13-7 363622-94-0 363622-95-1 363622-96-2 **363622-97-3**
(nature of magnetic interaction in organic radical crystals and magnetic interaction in mixed radical ion crystals)

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

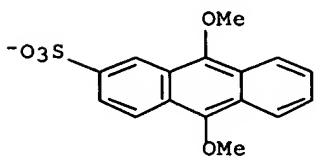
L44 ANSWER 47 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:390344 HCAPLUS Full-text
DOCUMENT NUMBER: 135:13041
TITLE: **Semiconductor** devices with photosensitive polyimide **layers**
INVENTOR(S): Akimoto, Satoshi; Kakimoto, Masaaki
PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001147533	A	20010529	JP 1999-328360 <--	19991118
PRIORITY APPLN. INFO.:			JP 1999-328360 <--	19991118

ED Entered STN: 30 May 2001
AB The devices have elec. **conducting layers** and polyimide **layers** formed from compns. containing (A) polyimides having acetal bonds in main chains and (B) photo-decomposing acid generators. Preferable structural repeating unit for the polyimides is given in a Markush. The polyimide compns. are alkaline developable and low-temperature curable and **layers** having high dimensional accuracy are obtained.
IT **137308-86-2**
(photoacid generator; **semiconductor** devices with photosensitive polyimide **layers**)
RN 137308-86-2 HCAPLUS
CN Iodonium, diphenyl-, salt with 9,10-dimethoxy-2-anthracenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

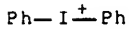
CM 1

CRN 137308-85-1
CMF C16 H13 O5 S



CM 2

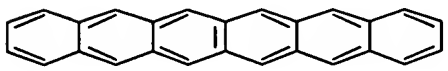
CRN 10182-84-0
CMF C12 H10 I



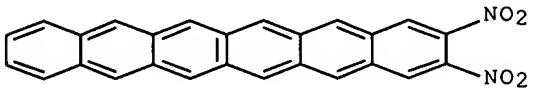
IC ICM G03F007-039
ICS C08G073-10; C08G077-455; C08K005-00; C08L079-04; C08L083-10; G03F007-38; G03F007-40; H01L021-027; H01L021-312
CC 76-3 (**Electric** Phenomena)
Section cross-reference(s): 38, 74
ST **semiconductor** device photosensitive polyimide alk developing; interlayer insulator **semiconductor** device polyimide; acetal contg polyimide photosensitive **semiconductor** device
IT Polyamides, processes
(fluorine-containing; **semiconductor** devices with photosensitive polyimide **layers**)
IT Electric insulators
(interlayer; **semiconductor** devices with photosensitive polyimide **layers**)
IT Fluoropolymers, processes
(polyamide-; **semiconductor** devices with photosensitive polyimide **layers**)
IT **Semiconductor** devices
(**semiconductor** devices with photosensitive polyimide **layers**)
IT **137308-86-2**
(photoacid generator; **semiconductor** devices with photosensitive polyimide **layers**)
IT 222551-48-6, Bis(4-aminophenoxy)methane-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropanedianhydride copolymer 222551-50-0
249568-02-3, 2,2-Bis(4-aminophenoxy)propane-2,2-bis(3,4-dicarboxyphenyl)hexafluoropropanedianhydride copolymer 249568-03-4
249568-04-5 249568-05-6
(**semiconductor** devices with photosensitive polyimide **layers**)

L44 ANSWER 48 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:356026 HCAPLUS Full-text
DOCUMENT NUMBER: 135:107872
TITLE: PM3/FF Studies on nonlinear optical properties of polyacene and its derivatives
AUTHOR(S): Hu, L. H.; Su, Z. M.; Wang, X. J.; Wang, C. G.; Wang, R. S.; Feng, J. K.
CORPORATE SOURCE: Institute of Functional Material Chemistry, Faculty of Chemistry, Northeast Normal University, Changchun, Jilin, 130024, Peop. Rep. China
SOURCE: Synthetic Metals (**2001**), 119(1-3), 579-580
CODEN: SYMEDZ; ISSN: 0379-6779

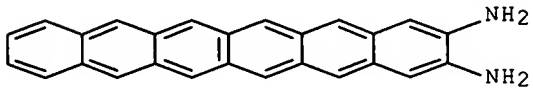
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 18 May 2001
AB Polyacenic **semiconductor** (PAS) materials were investigated extensively in theor. and exptl. studies. The calcn. of quantum chemical PM3/FF method indicated there were nonlinear optical properties in PAS. In this study, the results showed that effects of structures of PAS and -NO, -NH substitution were great. In the three stable structures of equal-bond length structure (a), cis-structure (b) and trans-structure (e), the values β of(b) increased quickly as the number of repeated units increased, while 3 of(a) and (c) were 0. (c) had the biggest γ. Because polyacenes substituted by -NO, and -NH groups were typical "Donor-Acceptor"(D-A) mols., they had larger β about 10-2' esu and γ about 10-32 esu. It indicated that ladder-type polyacene was not only an excellent conductive material, but also a potential nonlinear optical material.
IT **258-31-1**, Hexacene **350613-55-7 350613-56-8**
, 2,3-Hexacenediamine **350613-57-9**
(calcn. of nonlinear optical properties of polyacene and derivs. using quantum chemical PM3/FF method)
RN 258-31-1 HCAPLUS
CN Hexacene (CA INDEX NAME)



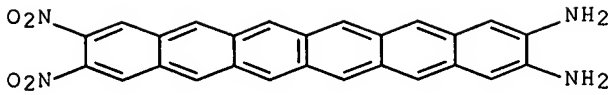
RN 350613-55-7 HCAPLUS
CN Hexacene, 2,3-dinitro- (9CI) (CA INDEX NAME)



RN 350613-56-8 HCAPLUS
CN 2,3-Hexacenediamine (9CI) (CA INDEX NAME)



RN 350613-57-9 HCAPLUS
CN 2,3-Hexacenediamine, 10,11-dinitro- (9CI) (CA INDEX NAME)



CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 73, **76**
IT Nonlinear optical properties
Semiconductor materials
(calcn. of nonlinear optical properties of polyacene and derivs. using quantum chemical PM3/FF method)
IT 92-24-0, Naphthacene **258-31-1**, Hexacene 258-33-3, Octacene 24540-30-5, Decacene 24862-63-3, Dodecacene 350613-51-3 350613-53-5, 2,3-Naphthacenediamine 350613-54-6 **350613-55-7** **350613-56-8**, 2,3-Hexacenediamine **350613-57-9** 350613-58-0 350613-59-1, 2,3-Octacenediamine 350613-60-4 350613-61-5 350613-62-6, 2,3-Decacenediamine 350613-63-7 350613-64-8 350613-65-9, 2,3-Dodecacenediamine 350613-66-0
(calcn. of nonlinear optical properties of polyacene and derivs. using quantum chemical PM3/FF method)
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 49 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:756451 HCAPLUS Full-text
DOCUMENT NUMBER: 133:322309
TITLE: Polymers for antireflective **films** for **semiconductor** devices
INVENTOR(S): Jung, Min-ho; Hong, Sung-eun; Baik, Ki-ho
PATENT ASSIGNEE(S): Hyundai Electronics Industries Co.,ltd., S. Korea
SOURCE: Ger. Offen., 22 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19962784	A1	20001026	DE 1999-19962784 <--	19991223
KR 2000067184	A	20001115	KR 1999-14763 <--	19990423
TW 546318	B	20030811	TW 1999-88120015 <--	19991117
GB 2349148	A	20001025	GB 1999-27833 <--	19991126
GB 2349148	B	20040804		
JP 2001098024	A	20010410	JP 1999-354493 <--	19991214
JP 3851476	B2	20061129		
CN 1271720	A	20001101	CN 1999-126381 <--	19991215
IT 99TO1099	A1	20010615	IT 1999-TO1099 <--	19991215
IT 1308674	B1	20020109		
FR 2792633	A1	20001027	FR 2000-392	20000113

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US 6368768	B1	20020409	US 2000-501049	20000209
			<--	
NL 1014997	A1	20001024	NL 2000-1014997	20000420
			<--	
NL 1014997	C2	20010626		
FR 2793254	A1	20001110	FR 2000-7511	20000613
			<--	
FR 2793254	B1	20060922		
FR 2793244	A1	20001110	FR 2000-7514	20000613
			<--	
FR 2793255	A1	20001110	FR 2000-7516	20000613
			<--	
FR 2793255	B1	20060922		
US 2002132183	A1	20020919	US 2002-54837	20020122
			<--	

PRIORITY APPLN. INFO.: KR 1999-14763 A 19990423
<--
US 2000-501049 A3 20000209
<--

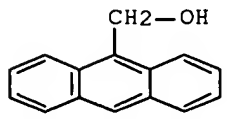
ED Entered STN: 27 Oct 2000

AB Acrylic polymers, useful for antireflective **film** that are markable by submicrolithog. using 248-Nm-KrF-, 193-NM-ArF-, and 157-Nm-F2-lasers on **semiconductor** in assembly of devices, have anthracene (derivative) or p-acetal group-substituted Ph groups. A typical polymer was manufactured by radical polymerization of 0.5 mol 9-anthracenylmethyl acrylate with 0.5 mol 2-hydroxyethyl acrylate.

IT **1468-95-7**, 9-Anthracenemethanol **54060-73-0**, 9-Anthraceneethanol
(monomer precursor; polymers for antireflective **films** for **semiconductor** devices)

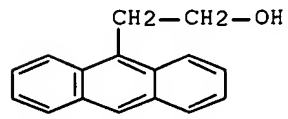
RN 1468-95-7 HCAPLUS

CN 9-Anthracenemethanol (CA INDEX NAME)



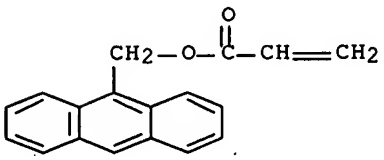
RN 54060-73-0 HCAPLUS

CN 9-Anthraceneethanol (9CI) (CA INDEX NAME)

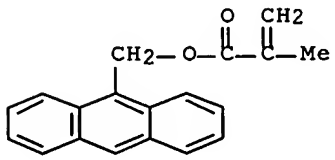


IT **31645-34-8P**, 9-Anthracenylmethyl acrylate **31645-35-9P** **303109-56-0P**
(monomer; polymers for antireflective **films** for **semiconductor** devices)

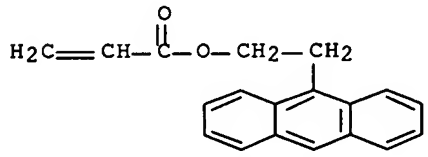
RN 31645-34-8 HCAPLUS
CN 2-Propenoic acid, 9-anthracenylmethyl ester (9CI) (CA INDEX NAME)



RN 31645-35-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester (9CI) (CA INDEX NAME)



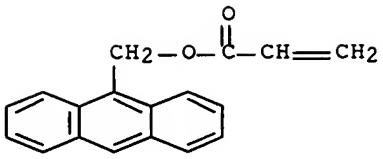
RN 303109-56-0 HCAPLUS
CN 2-Propenoic acid, 2-(9-anthracenyl)ethyl ester (9CI) (CA INDEX NAME)



IT **303109-46-8P 303109-47-9P 303109-48-0P**
303109-49-1P 303109-50-4P 303109-51-5P
303109-52-6P 303109-53-7P 303109-54-8P
303109-55-9P 303109-57-1P 303109-58-2P
303109-59-3P
(polymers for antireflective **films** for **semiconductor** devices)
RN 303109-46-8 HCAPLUS
CN 2-Propenoic acid, 9-anthracenylmethyl ester, polymer with 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

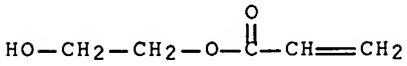
CM 1

CRN 31645-34-8
CMF C18 H14 O2



CM 2

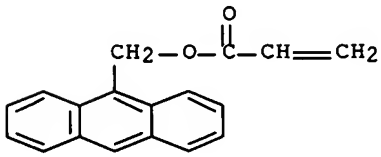
CRN 818-61-1
CMF C5 H8 O3



RN 303109-47-9 HCAPLUS
CN 2-Propenoic acid, 9-anthracenylmethyl ester, polymer with 2-hydroxypropyl 2-propenoate (9CI) (CA INDEX NAME)

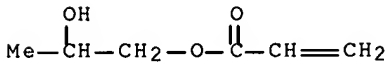
CM 1

CRN 31645-34-8
CMF C18 H14 O2



CM 2

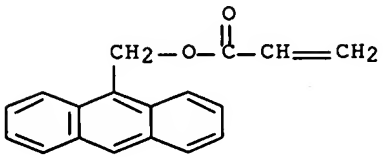
CRN 999-61-1
CMF C6 H10 O3



RN 303109-48-0 HCAPLUS
CN 2-Propenoic acid, 9-anthracenylmethyl ester, polymer with 4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

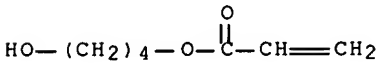
CM 1

CRN 31645-34-8
CMF C18 H14 O2



CM 2

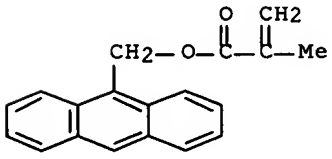
CRN 2478-10-6
CMF C7 H12 O3



RN 303109-49-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester, polymer with 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

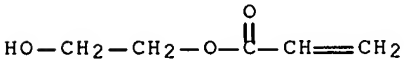
CM 1

CRN 31645-35-9
CMF C19 H16 O2



CM 2

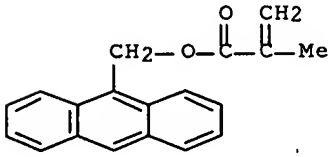
CRN 818-61-1
CMF C5 H8 O3



RN 303109-50-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester, polymer with 2-hydroxypropyl 2-propenoate (9CI) (CA INDEX NAME)

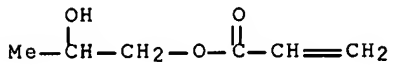
CM 1

CRN 31645-35-9
CMF C19 H16 O2



CM 2

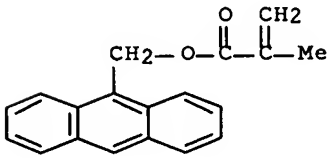
CRN 999-61-1
CMF C6 H10 O3



RN 303109-51-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 9-anthracenylmethyl ester, polymer with 4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

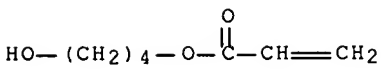
CM 1

CRN 31645-35-9
CMF C19 H16 O2



CM 2

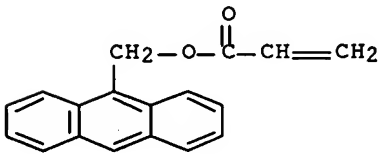
CRN 2478-10-6
CMF C7 H12 O3



RN 303109-52-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 9-anthracenylmethyl 2-propenoate and 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

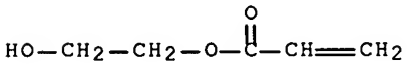
CM 1

CRN 31645-34-8
CMF C18 H14 O2



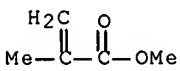
CM 2

CRN 818-61-1
CMF C5 H8 O3



CM 3

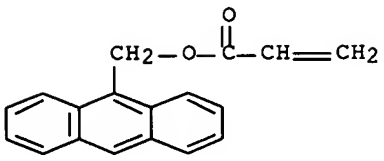
CRN 80-62-6
CMF C5 H8 O2



RN 303109-53-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 9-anthracenylmethyl 2-propenoate and 2-hydroxypropyl 2-propenoate (9CI) (CA INDEX NAME)

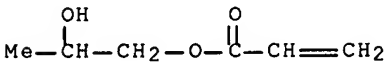
CM 1

CRN 31645-34-8
CMF C18 H14 O2



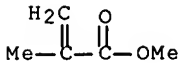
CM 2

CRN 999-61-1
CMF C6 H10 O3



CM 3

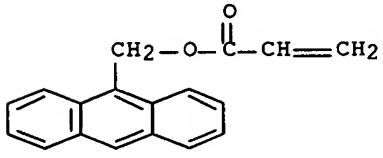
CRN 80-62-6
CMF C5 H8 O2



RN 303109-54-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 9-anthracenylmethyl 2-propenoate and 4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

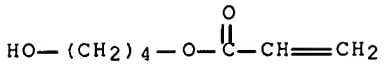
CM 1

CRN 31645-34-8
CMF C18 H14 O2



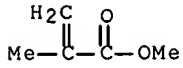
CM 2

CRN 2478-10-6
CMF C7 H12 O3



CM 3

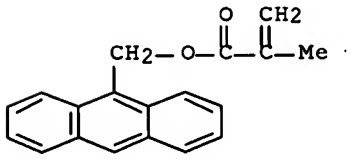
CRN 80-62-6
CMF C5 H8 O2



RN 303109-55-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 9-anthracenylmethyl 2-methyl-2-propenoate and 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

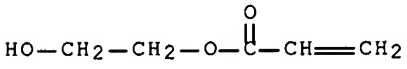
CM 1

CRN 31645-35-9
CMF C19 H16 O2



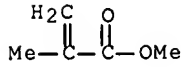
CM 2

CRN 818-61-1
CMF C5 H8 O3



CM 3

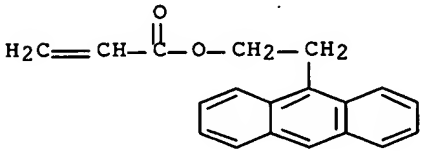
CRN 80-62-6
CMF C5 H8 O2



RN 303109-57-1 HCAPLUS
CN 2-Propenoic acid, 2-(9-anthracenyl)ethyl ester, polymer with 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

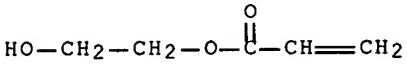
CM 1

CRN 303109-56-0
CMF C19 H16 O2



CM 2

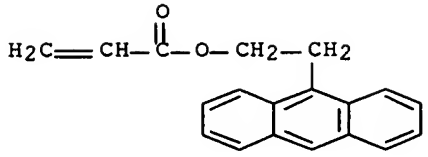
CRN 818-61-1
CMF C5 H8 O3



RN 303109-58-2 HCAPLUS
CN 2-Propenoic acid, 2-(9-anthracenyl)ethyl ester, polymer with 2-hydroxypropyl 2-propenoate (9CI) (CA INDEX NAME)

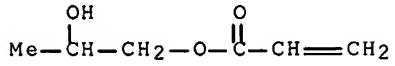
CM 1

CRN 303109-56-0
CMF C19 H16 O2



CM 2

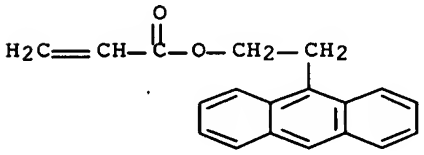
CRN 999-61-1
CMF C6 H10 O3



RN 303109-59-3 HCAPLUS
CN 2-Propenoic acid, 2-(9-anthracenyl)ethyl ester, polymer with 4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

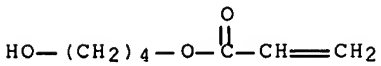
CM 1

CRN 303109-56-0
CMF C19 H16 O2



CM 2

CRN 2478-10-6
CMF C7 H12 O3



IC ICM C08F220-28
ICS C08F220-18; C08F220-30
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): **76**
ST antireflective **film semiconductor** device

anthracenylmethyl acrylate copolymer; para acetal group substituted phenyl contg acrylic antireflective **film**; hydroxyethyl acrylate copolymer antireflective **film semiconductor** device

IT Antireflective **films**
Semiconductor devices
(polymers for antireflective **films** for **semiconductor** devices)

IT 123-08-0, 4-Hydroxybenzaldehyde **1468-95-7**, 9-Anthracenemethanol **54060-73-0**, 9-Anthraceneethanol
(monomer precursor; polymers for antireflective **films** for **semiconductor** devices)

IT **31645-34-8P**, 9-Anthracenylmethyl acrylate **31645-35-9P** 36195-33-2P, 4-Formylphenyl methacrylate **303109-56-0P**
(monomer; polymers for antireflective **films** for **semiconductor** devices)

IT 64-17-5DP, Ethanol, reaction products with poly(formylphenyl methacrylate), preparation 67-56-1DP, Methanol, reaction products with poly(formylphenyl methacrylate), preparation **303109-46-8P** **303109-47-9P** **303109-48-0P** **303109-49-1P** **303109-50-4P** **303109-51-5P** **303109-52-6P** **303109-53-7P** **303109-54-8P** **303109-55-9P** **303109-57-1P** **303109-58-2P** **303109-59-3P** 303109-61-7DP, reaction products with alcs.
(polymers for antireflective **films** for **semiconductor** devices)

IT 303109-61-7P
(precursor; polymers for antireflective **films** for **semiconductor** devices)

L44 ANSWER 50 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:501851 HCAPLUS Full-text
DOCUMENT NUMBER: 133:121348
TITLE: Condensed aromatic ring-containing phenolic polymers, epoxy resins, their compositions, and cured products with moisture and heat resistance and mechanical strength
INVENTOR(S): Kaji, Masashi; Nakahara, Kazuhiko
PATENT ASSIGNEE(S): Nippon Steel Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000204141	A	20000725	JP 1999-5692 <--	19990112
PRIORITY APPLN. INFO.:			JP 1999-5692 <--	19990112

OTHER SOURCE(S): MARPAT 133:121348
ED Entered STN: 25 Jul 2000
AB The phenolic polymers, useful for **semiconductor** packages, **laminated sheets**, coatings, etc., are manufactured from condensed polycyclic aromatic hydrocarbons 1, C6H4(CH2OR)2 (R = H, C1-6 hydrocarbyl) 1.5-20, and phenols 4-40 mol in the presence of acidic catalysts. A composition comprising phenol novolak 39, epoxy resin manufactured from epichlorohydrin and pyrene-α,α'-dimethoxy-p-xylene- phenol copolymer 111, SiO2 450 parts, and other additives

was cured to give a test piece showing Tg 137°, flexural strength 15.0 kg/mm2, flexural modulus 1710 kg/mm2, and water absorption 0.23% (85°, 85 RH, 72 h). A package of the composition showed no crack generation after water absorption (85°, 85 RH, 72 h) and soldering at 260° for 10 s.

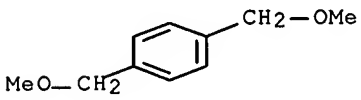
IT **185907-09-9DP**, reaction products with epichlorohydrin, polymers with phenolic polymers
(condensed aromatic ring-containing phenolic polymers, epoxy resins, their compns., and cured products with moisture and heat resistance and mech. strength)

RN 185907-09-9 HCAPLUS

CN Phenol, 2-methyl-, polymer with anthracene and 1,4-bis(methoxymethyl)benzene (9CI) (CA INDEX NAME)

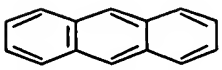
CM 1

CRN 6770-38-3
CMF C10 H14 O2



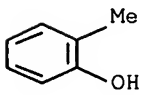
CM 2

CRN 120-12-7
CMF C14 H10



CM 3

CRN 95-48-7
CMF C7 H8 O

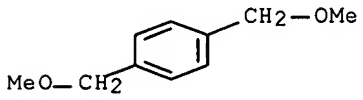


IT **185907-09-9P**, Anthracene-o-cresol-α,α'-dimethoxy-p-xylene copolymer
(condensed aromatic ring-containing phenolic polymers, epoxy resins, their compns., and cured products with moisture and heat resistance and mech. strength)

RN 185907-09-9 HCAPLUS
CN Phenol, 2-methyl-, polymer with anthracene and 1,4-bis(methoxymethyl)benzene (9CI) (CA INDEX NAME)

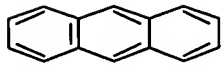
CM 1

CRN 6770-38-3
CMF C10 H14 O2



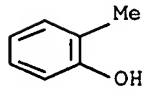
CM 2

CRN 120-12-7
CMF C14 H10



CM 3

CRN 95-48-7
CMF C7 H8 O



IC ICM C08G061-02
ICS C08G059-04; C08G059-20
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 35, **76**
ST epoxy resin moisture resistance **semiconductor** package; methoxyxylene phenol pyrene epichlorohydrin copolymer curable; **semiconductor** package epoxy resin heat resistance
IT 106-89-8DP, Epichlorohydrin, reaction products with condensed aromatic ring-containing phenolic polymers, polymers with phenolic polymers 9003-35-4DP, PN, polymers with epoxy resins 26834-02-6DP, XL 225-3L, polymers with epoxy resins **185907-09-9DP**, reaction products with epichlorohydrin, polymers with phenolic polymers 254991-46-3DP, reaction products with epichlorohydrin, polymers with phenolic polymers 285979-15-9DP, polymers with epoxy resins

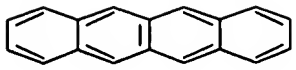
(condensed aromatic ring-containing phenolic polymers, epoxy resins, their compns., and cured products with moisture and heat resistance and mech. strength)

IT **185907-09-9P**, Anthracene-o-cresol-α,α'-dimethoxy-p-xylene copolymer 254991-46-3P, α,α'-Dimethoxy-p-xylene-phenol-pyrene copolymer
(condensed aromatic ring-containing phenolic polymers, epoxy resins, their compns., and cured products with moisture and heat resistance and mech. strength)

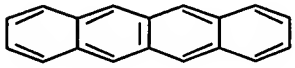
L44 ANSWER 51 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:133365 HCAPLUS Full-text
DOCUMENT NUMBER: 132:174510
TITLE: Integrated circuit containing thin-**film** transistors and its fabrication
INVENTOR(S): Dodabalapur, Ananth
PATENT ASSIGNEE(S): Lucent Technologies Inc., USA
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 981165	A1	20000223	EP 1999-306305 <--	19990810
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6215130	B1	20010410	US 1998-137920 <--	19980820
TW 413951	B	20001201	TW 1999-88110493 <--	19990622
JP 2000068523	A	20000303	JP 1999-233342 <--	19990820
KR 2000017418	A	20000325	KR 1999-34561 <--	19990820
PRIORITY APPLN. INFO.:			US 1998-137920 A <--	19980820

ED Entered STN: 25 Feb 2000
AB The specification describes thin-**film** transistor integrated circuits in which the TFT devices are field effect transistors with inverted structures. The interconnect levels are produced prior to the formation of the transistors. This structure leads to added flexibility in processing. The inverted structure is a result of removing the constraints in traditional field effect device manufacture that are imposed by the necessity of starting the device fabrication with the single crystal **semiconductor** active material. In the inverted structure, the active material, preferably an organic **semiconductor**, is formed last in the fabrication sequence.
IT **92-24-0**, Tetracene **92-24-0D**, Tetracene, oligomers
(manufacture of thin-**film** transistors containing)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



IC ICM H01L027-12
ICS H01L021-84; H01L027-00; H01L051-20; H01L051-30; H01L021-74
CC 76-3 (**Electric** Phenomena)
ST thin **film** transistor integrated circuit fabrication; org **semiconductor** thin **film** transistor integrated circuit fabrication
IT Integrated circuits
Interconnections (electric)
Semiconductor device fabrication
Thin **film** transistors
(manufacture of integrated circuits containing thin-**film** transistors)
IT Polymers, processes
(manufacture of thin-**film** transistors containing)
IT **Semiconductor** materials
(organic; manufacture of thin-**film** transistors containing)
IT 81-30-1, Naphthalene tetracarboxylic dianhydride **92-24-0**, Tetracene **92-24-0D**, Tetracene, oligomers 92-87-5, p,p'-Diaminobiphenyl 92-87-5D, p,p'-Diaminobiphenyl, oligomers 110-02-1D, Thiophene, oligomers 128-69-8, Perylene tetracarboxylic dianhydride 128-69-8D, Perylene tetracarboxylic dianhydride, imide derivative 135-48-8, Pentacene 135-48-8D, Pentacene, oligomers 147-14-8D, Copper phthalocyanine, fluorinated 25233-34-5, Polythiophene 26571-64-2D, Polyvinylene, oligomeric block copolymers with polytheinylen 51325-05-4D, Polythienylene, oligomeric block copolymers with polyvinylene 88493-55-4, α-Sexithiophene 258832-52-9 258832-53-0
(manufacture of thin-**film** transistors containing)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 52 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:658537 HCAPLUS Full-text
DOCUMENT NUMBER: 129:338714
TITLE: Thin-**film** transistors with organic **semiconductors**
INVENTOR(S): Dimitrakopoulos, Christos Dimitrios; Duncombe, Peter Richard; Furman, Bruce K.; Leibowitz, Robert B.; Neumayer, Deborah Ann; Purushothaman, Sampath
PATENT ASSIGNEE(S): International Business Machines Corp., USA

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10270712	A	19981009	JP 1998-76201 <--	19980324
JP 3304299	B2	20020722		
US 5946551	A	19990831	US 1997-827015 <--	19970325
US 5981970	A	19991109	US 1997-827018 <--	19970325
TW 432720	B	20010501	TW 1998-87103853 <--	19980316

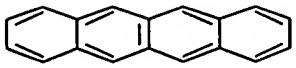
PRIORITY APPLN. INFO.: US 1997-827015 A 19970325 <--
US 1997-827018 A 19970325 <--

ED Entered STN: 19 Oct 1998

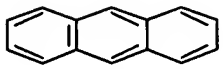
AB TFTs contain substrates, gate electrodes on the substrates, highly-dielec. insulator **films** on the gate electrodes, **organic semiconductor layers** on the insulator **films**, and source/drain electrodes on the **layers**. The insulator **films** indicate the dependence of the organic **semiconductors** on unexpected gate potential and achieve high field effect mobility at very low driving potential.

IT **92-24-0**, Tetracene **120-12-7**, Anthracene, uses
258-31-1, Hexacene
(thin-**film** transistors with organic **semiconductors** from)

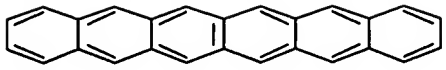
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)



RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



RN 258-31-1 HCAPLUS
CN Hexacene (CA INDEX NAME)



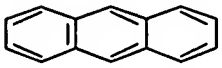
IC ICM H01L029-786
ICS H01L021-336
CC 76-3 (**Electric** Phenomena)
ST thin **film** transistor org **semiconductor**; insulator **film** org **semiconductor** TFT
IT Polyanilines
(elec. **conductive**; thin-**film** transistors with organic **semiconductors** and gate electrodes from)
IT **Semiconductor** materials
Thin **film** transistors
(thin-**film** transistors with organic **semiconductors**)
IT Metal alkoxides
Polycarbonates, uses
Polyimides, uses
(thin-**film** transistors with organic **semiconductors** and insulator **films** from)
IT Glass, uses
Plastics, uses
(thin-**film** transistors with organic **semiconductors** and substrates from)
IT 30604-81-0, Polypyrrole
(elec. **conductive**; thin-**film** transistors with organic **semiconductors** and gate electrodes from)
IT 7429-90-5, Aluminum, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses
(thin-**film** transistors with organic **semiconductors** and gate electrodes from)
IT 1314-36-9, Yttrium trioxide, uses 1314-61-0, Tantalum pentoxide 11115-71-2, Bismuth titanate 12047-27-7, Barium titanate, uses 12060-59-2, Strontium titanate 13463-67-7, Titanium dioxide, uses 37305-87-6, Barium strontium titanate 37305-89-8, Barium titanate zirconate 53572-00-2, Bismuth strontium titanate 114952-68-0, Lanthanum lead titanium oxide ((La,Pb)TiO3) 123193-40-8, Lead strontium titanium oxide ((Pb,Sr)TiO3) 166877-45-8, Bismuth strontium tantalate 215190-18-4, Barium magnesium fluoride 215190-20-8, Bismuth niobium titanium oxide (Bi(Nb,Ti)O3)
(thin-**film** transistors with organic **semiconductors** and insulator **films** from)
IT 7440-21-3, Silicon, uses 14808-60-7, Quartz, uses
(thin-**film** transistors with organic **semiconductors** and substrates from)
IT 91-20-3, Naphthalene, uses **92-24-0**, Tetracene **120-12-7**, Anthracene, uses 135-48-8, Pentacene **258-31-1**, Hexacene
(thin-**film** transistors with organic **semiconductors** from)

L44 ANSWER 53 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:307042 HCAPLUS Full-text
DOCUMENT NUMBER: 129:48300

TITLE: Material for p-type contact containing group II-VI **semiconductor**, and method of forming the contact for **semiconductor** device
INVENTOR(S): Ueba, Yoshinobu; Uemura, Taku
PATENT ASSIGNEE(S): Sumitomo Electric Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10126008	A	19980515	JP 1996-297112 <--	19961018
PRIORITY APPLN. INFO.:			JP 1996-297112 <--	19961018

ED Entered STN: 25 May 1998
AB The invention relates to a material for a P-type contact composed of metal/contact **layer**/II-VI P-**semiconductor**, suited for use in a **semiconductor** device, e.g., a blue laser diode, wherein the contact **layer** is a organic compound/metal hybrid **layer**, wherein the ionization potentials of the organic compound and the metal are ≥ 4 eV, resp., thereby reducing the barrier height.
IT **120-12-7**, Anthracene, uses
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
RN 120-12-7 HCAPLUS
CN Anthracene (CA INDEX NAME)



IC ICM H01S003-18
ICS H01L021-28; H01L033-00
CC 76-2 (**Electric** Phenomena)
Section cross-reference(s): 38, 73, 75
ST II VI contact material **semiconductor** device
IT **Semiconductor** devices
Semiconductor lasers
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for)
IT Electric contacts
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for a **semiconductor** device)
IT Group IIB element chalcogenides
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
IT Metallophthalocyanines
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
IT Polythiophenylenes
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing AsF5-doped)

IT Vapor deposition process
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device formed by)
IT Vapor deposition process
(vacuum; material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device formed by)
IT 1315-09-9, Zinc selenide (ZnSe) 1315-11-3, Zinc telluride (ZnTe)
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
IT 85-01-8, Phenanthrene, uses **120-12-7**, Anthracene, uses
147-14-8, Copper phthalocyanine 574-93-6, Phthalocyanine 603-34-9
1661-03-6, Magnesium phthalocyanine 7429-90-5, Aluminum, uses
7440-02-0, Nickel, uses 7440-05-3, Palladium, uses 7440-06-4,
Platinum, uses 7440-22-4, Silver, uses 7440-57-5, Gold, uses
7782-42-5, C60, uses 14055-02-8 14320-04-8, Zinc phthalocyanine
15187-16-3, Lead phthalocyanine 27236-84-6, Tetraphenylbutadiene
65181-78-4, TPD 84370-49-0 124729-98-2, MTDATA
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
IT 7784-36-3, Arsenic fluoride (AsF5)
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing)
IT 25190-62-9, Poly(1,4-phenylene) 96638-49-2, Polyphenylenevinylene
(material for II-VI p-contact containing organic compound/metal hybrid **layer** for **semiconductor** device containing AsF5-doped)

L44 ANSWER 54 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:617904 HCAPLUS Full-text
DOCUMENT NUMBER: 127:340567
TITLE: Organic silicon oxide compound molecular **film laminates** for electrical and optical materials
INVENTOR(S): Murao, Kenji
PATENT ASSIGNEE(S): Hitachi, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09246627	A	19970919	JP 1996-57190 <--	19960314
PRIORITY APPLN. INFO.:			JP 1996-57190 <--	19960314

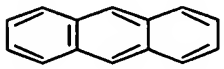
ED Entered STN: 27 Sep 1997
AB The title **laminates** are a single-mol. or ≤5-mol. Si oxide compound **film laminate** which is inserted between the **films** with a single-mol. or ≤5-mol. organic compound **film**. One of the 4 bondings of Si in the Si oxide compound is bonded to a non-hydrolyzing organic group such as an alkyl, aralkyl or polymerizable alkene group and the 3 remainder bondings are bonded to O atmospheric The precursor in deposition of the **laminates** has amphoteric (hydrophilic/lipophilic) groups such as monoalkyltrialkoxysilanol. The use of the organic Si oxide compound mol. **film laminates** as a matrix gives the **laminates** an easy manufacture and homogeneous even **lamination** in manufacturing of anisotropic conductors, photochem. and optochem. materials, electron

donors, elec. current switching materials, and IR spectral absorbents, and **semiconductor** devices.

IT **120-12-7P**, Anthracene, properties
(precursor; organic silicon oxide compound mol. **film laminates** for elec. and optical materials)

RN 120-12-7 HCAPLUS

CN Anthracene (CA INDEX NAME)



IC ICM H01L051-00
ICS B32B009-00; H01L021-283; H01L021-368

CC 76-14 (**Electric** Phenomena)
Section cross-reference(s): 47, 73

ST alkyltrialkoxysilanol amphoteric mol **film laminate** ; org silicon oxide compd mol **film**; anisotropic **conductor** alkyltrialkoxysilanol mol **film laminate**; photochem optochem alkyltrialkoxysilanol mol **film laminate**; electron donor alkyltrialkoxysilanol mol **film laminate**; current switching alkyltrialkoxysilanol mol **film laminate**; IR absorbent alkyltrialkoxysilanol mol **film laminate**; **semiconductor** device alkyltrialkoxysilanol mol **film laminate**; hydrophilic lipophilic group mol **film** precursor

IT Electric conductors
Electric conductors
(anisotropic; organic silicon oxide compound mol. **film laminates** for elec. and optical materials)

IT Anisotropic materials
Anisotropic materials
(elec. conductors; organic silicon oxide compound mol. **film laminates** for elec. and optical materials)

IT Electric switches
Electron donors
IR reflection-absorption spectra
IR reflection-absorption spectra
IR reflection-absorption spectra
Optical materials
Photochemistry
Semiconductor devices
(organic silicon oxide compound mol. **film laminates** for elec. and optical materials)

IT Organic compounds, properties
(organic silicon oxide compound mol. **film laminates** for elec. and optical materials)

IT 2943-75-1, n-Octyltriethoxysilane
(organic silicon oxide compound mol. **film laminates** for elec. and optical materials)

IT **120-12-7P**, Anthracene, properties 102197-58-0P
(precursor; organic silicon oxide compound mol. **film laminates** for elec. and optical materials)

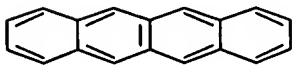
L44 ANSWER 55 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:523048 HCAPLUS Full-text
DOCUMENT NUMBER: 127:184336
TITLE: Organic thin-**film** transistor with enhanced carrier mobility and its fabrication
INVENTOR(S): Shi, Song Q.; Shieh, Chan-Long; Lee, Hsing-Chung
PATENT ASSIGNEE(S): Motorola, Inc., USA
SOURCE: Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 786820	A2	19970730	EP 1997-101017 <--	19970123
EP 786820 R: DE, FR, GB	A3	19980701		
US 6326640	B1	20011204	US 1996-592930 <--	19960129
JP 09232589	A	19970905	JP 1997-28474 <--	19970128

PRIORITY APPLN. INFO.: US 1996-592930 A 19960129 <--

ED Entered STN: 16 Aug 1997
AB An organic thin-**film** transistor includes a gate on a gate insulator **layer**, a source and a drain positioned spaced apart on a **film** of organic **semiconductor** material with uniaxially aligned mols., the organic **semiconductor** being positioned so that the mols. are aligned between the source and drain, and an orientation **film** positioned adjacent to the organic **semiconductor film** so that mol. uniaxial alignment of the organic **semiconductor film** is achieved by the orientation **film**.
IT **92-24-0**, Tetracene
(fabrication of organic thin-**film** transistor with enhanced carrier mobility containing)
RN 92-24-0 HCAPLUS
CN Naphthacene (CA INDEX NAME)

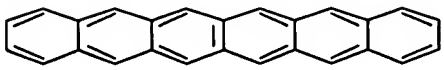


IC ICM H01L051-20
CC 76-3 (**Electric** Phenomena)
ST org thin **film** transistor
IT Polymers, processes
(conjugated; fabrication of organic thin-**film** transistor with enhanced carrier mobility containing)
IT Thin **film** transistors
(fabrication of organic thin-**film** transistor with enhanced carrier mobility)
IT Polyacenes
Polyacetylenes, processes
Polyphenyls
(fabrication of organic thin-**film** transistor with enhanced

carrier mobility containing)

IT **92-24-0**, Tetracene 129-00-0, Pyrene, processes 135-48-8, Pentacene 147-14-8, Copper phthalocyanine 191-07-1, Coronene 198-55-0, Perylene 218-01-9, Chrysene 14074-80-7, Zinc, 5,10,15,20-tetraphenyl-21H,23H-porphine 14154-42-8, Aluminum phthalocyanine chloride 25013-01-8, Polypyridine 25067-54-3, Polyfuran 25067-58-7, Polyacetylene 25233-30-1, Polyaniline 25233-34-5, Polythiophene 27987-87-7, Polydiacetylene 30604-81-0, Polypyrrole 66280-99-7, Polythienylenevinylene 79079-35-9 96638-49-2, Poly(phenylenevinylene)
(fabrication of organic thin-**film** transistor with enhanced carrier mobility containing)

L44 ANSWER 56 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:592557 HCAPLUS Full-text
DOCUMENT NUMBER: 119:192557
TITLE: Conducting thin films of pentacene doped with alkali metals
AUTHOR(S): Minakata, Takashi; Ozaki, Masaru; Imai, Hideaki
CORPORATE SOURCE: Cent. Lab., Asahi Chem. Ind. Co. Ltd., Fuji, 416, Japan
SOURCE: Journal of Applied Physics (**1993**), 74(2), 1079-82
CODEN: JAPIAU; ISSN: 0021-8979
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 30 Oct 1993
AB Donor doping of thin films of pentacene (PEN) with alkaline metals such as sodium, potassium, and rubidium was carried out. Drastic changes in conductivities of PEN films from an insulator to an n-type **semiconductor** due to the doping was observed Maximum conductivity of 2.8 Ω-1 cm-1 was shown in the film doped with rubidium. Alkaline metal doping of thin films of other acene compds. such as tetracene and hexacene was also performed.
IT **258-31-1**, Hexacene
(elec. conductivity of films of, doped with potassium and rubidium and sodium)
RN 258-31-1 HCAPLUS
CN Hexacene (CA INDEX NAME)



CC 76-1 (**Electric** Phenomena)
ST pentacene film alkali metal doped cond; tetracene film alkali metal doped cond; hexacene film alkali metal doped cond; **semiconductor** alkali metal doped pentacene; rubidium doped pentacene cond
IT **Semiconductor** materials
(n-type, hexacene and pentacene doped with alkali metals)
IT 92-24-0, Tetracene 135-48-8, Pentacene **258-31-1**, Hexacene
(elec. conductivity of films of, doped with potassium and rubidium and sodium)

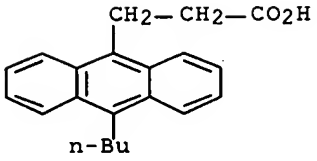
L44 ANSWER 57 OF 57 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:34247 HCAPLUS Full-text
DOCUMENT NUMBER: 114:34247
TITLE: **Semiconductor** device comprising an organic material
INVENTOR(S): Eguchi, Ken; Kawada, Haruki; Sakai, Kunihiro; Tomida, Yoshinori; Matsuda, Hiroshi; Kimura, Toshiaki; Takimoto, Kiyoshi; Miyazaki, Toshihiko; Morikawa, Yuko
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Eur. Pat. Appl., 34 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 252756	A2	19880113	EP 1987-306128 <--	19870710
EP 252756	A3	19891115		
R: CH, DE, ES, FR, GB, IT, LI, NL				
JP 63073560	A	19880404	JP 1986-217818 <--	19860916
JP 63094672	A	19880425	JP 1986-239847 <--	19861008
JP 63146464	A	19880618	JP 1986-282053 <--	19861128
JP 07079173	B	19950823		
US 4939556	A	19900703	US 1987-71393 <--	19870709
EP 502590	A2	19920909	EP 1992-201460 <--	19870710
EP 502590	A3	19930428		
R: CH, DE, ES, FR, GB, IT, LI, NL				

PRIORITY APPLN. INFO.:		
JP 1986-160931 <--	A	19860710
JP 1986-161978 <--	A	19860711
JP 1986-217818 <--	A	19860916
JP 1986-239847 <--	A	19861008
JP 1986-282053 <--	A	19861128

ED Entered STN: 26 Jan 1991
AB An organic **semiconductor** device has superlattice structure with insulating and **conductive layers** which are alternated. The device has an amplification function, or a switching effect. The organic **film** may be a monomol. or monomol. built-up **film** comprising a mol. having both a hydrophilic and a hydrophobic part.
IT **70022-36-5**
(**layers**, in **semiconductor** devices)
RN 70022-36-5 HCAPLUS
CN 9-Anthracenepropanoic acid, 10-butyl- (9CI) (CA INDEX NAME)



IC ICM H01L029-28
CC 76-3 (**Electric** Phenomena)
ST **semiconductor** device org **film**; TCNQ **film** **semiconductor** device
IT Electric amplifiers
Electric switches and switching
Semiconductor devices
(containing organic **layers**)
IT Oxides, uses and miscellaneous
Selenides
Sulfides, uses and miscellaneous
(**films**, in **semiconductor** devices with organic **films**)
IT Group IIB element compounds
Group IIIA element compounds
Group IVA element compounds
Group VA element compounds
Group VIA element compounds
(in **semiconductor** devices with organic **films**)
IT 7440-21-3D, Silicon, compds. 7440-38-2D, Arsenic, compds. 7440-43-9D, Cadmium, compds. 7440-44-0D, Carbon, compds. 7440-55-3D, Gallium, compds. 7440-66-6D, Zinc, compds. 7440-74-6D, Indium, compds. 7723-14-0D, Phosphorus, compds. 11113-78-3, Palladium silicide 39467-10-2, Nickel silicide
(**films**, in **semiconductor** devices with organic **films**)
IT 7429-90-5, Aluminum, uses and miscellaneous 7440-02-0, Nickel, uses and miscellaneous 7440-06-4, Platinum, uses and miscellaneous 7440-57-5, Gold, uses and miscellaneous 115907-01-2 131331-17-4
(in **semiconductor** devices with organic **films**)
IT 12156-33-1 14923-81-0, Cadmium arachidate 66990-32-7, 10,12-Pentacosadiynoic acid **70022-36-5** 101853-37-6 102149-36-0 125888-70-2 131331-11-8 131331-15-2
(**layers**, in **semiconductor** devices)

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L35          6 SEA ABB=ON  PLU=ON  L33 AND L34
L36          6 SEA ABB=ON  PLU=ON  L33 AND SEMICONDUCTOR FILMS?
L37         50 SEA ABB=ON  PLU=ON  L33 AND ?CONDUCT?(2A)(LAYER? OR FILM?
               OR BILAYER? OR SHEET? OR THINLAYER? OR LAMIN? OR OVERLAY?
               OR OVERLAID? OR MULTILAYER?)
L38         61 SEA ABB=ON  PLU=ON  L31 OR (L35 OR L36 OR L37)
L39         57 SEA ABB=ON  PLU=ON  L38 AND (1840-2003)/PRY,AY,PY
L40         11 SEA ABB=ON  PLU=ON  L39 AND L31
L41         25 SEA ABB=ON  PLU=ON  L32 AND (ORGANIC(A)(SEMICONDUCT? OR
               SEMI(A)CONDUCT?)(A)LAYER?)
L42         25 SEA ABB=ON  PLU=ON  L41 AND ELECTRIC?/SC,SX
L43         13 SEA ABB=ON  PLU=ON  L42 AND (1840-2003)/PRY,AY,PY
L44         57 SEA ABB=ON  PLU=ON  L43 OR
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